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Satellite-Derived Daily Sea Surface Temperature Maps for Areas "O" to "P" from 1984 to 1986
O: Overview Data; East Coast to Canada Satellite Pass to
P: Western North Atlantic; Gulf of Maine to Hudson Strait

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Rapport statistique canadien sur l'hydrographie et les sciences océaniques

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Les établissements des Sciences et levés océaniques dans les régions et à l'administration centrale ont cessé de publier leurs diverses séries de rapports en décembre 1981. Une liste complète de ces publications figure dans le volume 39, Index des publications 1982, du *Journal canadien des sciences halieutiques et aquatiques*. La série actuelle a commencé avec la publication du rapport numéro 1 en janvier 1982.

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SATELLITE DERIVED DAILY SEA SURFACE TEMPERATURE MAPS FOR AREAS "O" TO "P" FROM 1984 to 1986

O: OVERVIEW DATA; EAST COAST OF CANADA SATELLITE PASS
to
P: WESTERN NORTH ATLANTIC; GULF OF MAINE TO HUDSON STRAIT

by

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ABSTRACT

Topliss B.J., L. Payzant, C.S. Mason, H. Edel, K.L. March, I.G. Holden, M. Thiebaux, and F. Guptill. 1990. Satellite Derived Daily Sea Surface Temperature Maps for Areas "O" and "P" from 1984 to 1986. O: Overview Data; East Coast of Canada Satellite Pass and P: Western North Atlantic; Gulf of Maine to Hudson Strait. Can. Data Rep. Hydrogr. Ocean Sci. No. 89: vi + 121 pp.

Satellite imagery from the NOAA series have been used to produce daily sea surface temperature (SST) maps for specific areas off the east coast of Canada. Each temperature map is accompanied by a visible wavelength map which can be used for basic cloud discrimination. Details of the processing steps for turning a satellite infrared image into a SST map are given together with scientific and applications limitations resulting from the processing choices made at each step. Details on how to access and use the atlas are also given. Each regional atlas is intended to serve as both a quicklook of available data and as a prototype or pilot atlas to assess regional demands and specifications. The images or maps themselves can only be viewed with the aid of a computer. Catalogues for the images are presented here which cover such items as the quality of the navigation of each image/map, and the degree of cloud cover as well as the location of a specific map within the archiving system. The catalogues are also available on a VAX computer system for electronic access.

RÉSUMÉ

Topliss B.J., L. Payzant, C.S. Mason, H. Edel, K.L. March, I.G. Holden, M. Thiebaux, and F. Guptill. 1990. Satellite Derived Daily Sea Surface Temperature Maps for Areas "O" and "P" from 1984 to 1986. O: Overview Data; East Coast of Canada Satellite Pass and P: Western North Atlantic; Gulf of Maine to Hudson Strait. Can. Data Rep. Hydrogr. Ocean Sci. No. 89: vi + 121 pp.

Une imagerie satellitaire provenant de la série de la NOAA a été utilisée pour produire quotidiennement des cartes de la température de la mer en surface (TMS) dans certaines zones situées au large des côtes est du Canada. Chacune des cartes de la température s'accompagne d'une carte des longueurs d'onde du visible pouvant servir à la différenciation des nuages fondamentaux. Certains détails sont donnés ici concernant les phases de traitement permettant de transformer une photo-satellite infrarouge en une carte de la TMS; sont aussi précisées les limites scientifiques et pratiques résultant des choix de traitement faits à chacune des étapes. On trouve de plus des détails sur la façon d'accéder à l'atlas et la manière de s'en servir. Chacun des atlas régionaux est destiné à servir à la fois d'aperçu rapide des données accessibles et d'atlas à l'état de prototype ou expérimental pour évaluer les spécifications et les besoins régionaux. Les images ou les cartes comme telles ne peuvent être examinées qu'à l'aide d'un ordinateur. Des catalogues montrant les images en question sont présentés ici et ils portent sur des paramètres comme la qualité de la navigation avec chacune des images par rapport à la carte, ainsi que le degré de couverture nuageuse de même que le lieu d'une carte donnée au sein du système d'archivage. Les catalogues sont aussi accessibles à l'aide d'un ordinateur VAX pour accès électronique.

TABLE OF CONTENTS

Page

Abstract/Resume ... iii

List of Tables ... vi

List of Figures ... vi

Introduction ... 1

The Raw Data Archive ... 2

The Quicklook Archive ... 2

Atlas Creation ... 4

Atlas Processing ... 4
- Ingest and Navigation ... 5
- Batch Processing: Sectors and Visible Images ... 6
- Batch Processing: Temperature Algorithm ... 7
- Batch Processing: Map Projection ... 9
- Graphics Overlays ... 10
- Quality Control ... 11

Calibrations and Processing Errors ... 12

Catalogues and Tape Inventories ... 13

Access to Catalogues and Atlas ... 14

Summary ... 15

Acknowledgements ... 16

References ... 17

Disclaimer and further contacts ... 21

Appendix 1: Catalogue of Daily SST and Visible Images in Area O for years 1984, 1985 and 1986 ... 35

Appendix 2: Catalogue of Daily SST and Visible Images Area P for years 1984, 1985 and 1986 ... 61

Appendix 3: Lising of file NAVERR: - navigation problems ... 87

Appendix 4: Listing of raw data files via INVREAD ... 99

LIST OF TABLES

1 Catalogue Names and Area Co-ordinates 23

2 Navigation Error codes 24

LIST OF FIGURES

(NOTE: Figures are only applicable to the hardcopy version of this report. No figures appear in the reports available in digital (magnetic tape) media which appear as the first digital file on the first volume of each regional atlas tape.)

1 Conversion values for NOAA 7 data (10 to 8 bit) 25

2 Conversion values for NOAA 9 data (10 to 8 bit) 26

3 East Coast of Canada Satellite pass: Coverage 27

4 Geographic Atlas Areas 28

5 Atlas Processing Record (APR) example logsheet 29

6 Coverages relative to East Coast Geography: Area O 30

7 Graphics overlay; combined coastline, grid and bathymetry (as applicable): Area P 31

INTRODUCTION

Sea Surface Temperature (SST) has been used in both marine and fisheries research off the east coast of Canada for numerous decades (Hachey 1935, 1937). There are a variety of uses for SST information from high precision accuracy measurements for air-sea interaction and heat flux calculations (Isemer and Hasse 1985), to the use of statistical means and annual anomalies for environmental and fisheries studies (Sutcliffe et al 1977, Drinkwater and Myers 1987), to the simple location and monitoring of thermal frontal regions in the ocean (Legeckis 1979). Historic SST information has generally come from various marine sources, such as research vessels, commercial ships of opportunity and military vessels. Regional and monthly composites of the available data are then performed and atlases such as those produced by ICES (1962) are the common end product. Such historic data are, however, largely confined to the world's shipping lanes with either sparse or no coverage for some parts of the world. With the advent of satellite measurements of SST, both real time and large scale global coverage (Woods 1983) becomes possible. The National Oceanographic and Atmospheric Agency (NOAA) have combined ship of opportunity measurements with satellite ocean enhanced photographs to produce weekly analysis charts for the Eastern Seaboard of the United States including some sections off Atlantic Canada. These charts can be transmitted directly to vessels wishing to identify the characteristics of the Gulf Stream for either commercial or sporting activities. They can also be obtained by subscription by research and educational establishments and used in futher analysis of fisheries studies (Campana and Hurley 1989). Similar charts also exist for the west coast of the United States (Montgomery, 1981) and oceanographic interpretations of the NOAA Atlantic Canada charts are published routinely as a State of the Ocean's report in the "Sou'wester" magazine.

The prime source of satellite SST coverage are the NOAA (and TIROS) series of satellites (see Maul 1985 for details of individual launch sequences since 1960). The sensors used since NOAA5 are the AVHHRR (Advanced Very High Resolution Radiometer) and the AVHRR/2 (with an extra band in the infrared) operating in a polar, sun synchronous orbit at an approximate height of 850km with a nadir geometric resolution of approximately 1.1 km. The waveband details of both the AVHRR and the AVHRR/2 are given in Robinson (1985), although in many references the /2 notation is dropped so that the term AVHRR now tends to refer to the currrent generation/model of the sensor.

Data from the NOAA series of satellites are received in Canada by the Atmospheric Environment Service (AES) and the Department of Energy Mines and Resources, Canada Centre for Remote Sensing. For coverage of the east coast of Canada, the satellite data are received at AES, Downsview outside Toronto, Ontario. This information is largely used by AES for real time weather prediction and by Ice Central, Ottawa, for supplementing ice conditions in northern latitudes. The information is generally not archived since analysis of historic marine data is not part of AES's mandate. Since early 1984, collaborative scientific research programmes have existed between AES Bedford, Nova Scotia and the Department of Fisheries and Oceans, Bedford Institute of Oceanography. This collaboration has now covered several joint Meteorological - Oceanography programmes such as the Shelf Break Programme (1976-78), the South-West Nova Scotia Programme (1978-83), Oceanographic Analysis of Sea Ice and Icebergs (1985-89), CASP (Canadian Atlantic Storms Programme 1985-86), Atlantic Ocean Currents from Satellite (1989-94), and planned Sea Ice Flux onto Newfoundland Shelves (1990-94), and CASP -II (1990- 93). As part of this collaboration AES, Bedford have received daily NOAA satellite imagery of the east coast from the main Downsview facility. These tapes are first catalogued at BIO and then stored at a local Federal Government tape repository in Burnside, Dartmouth. From the initiation of this collaborative programme in 1984 until approximately November 1988, the Downsview receiving station was only able to receive data in 8 bit format even though the satellite sensor transmitted down 10 bit information. Hence, although it is possible to note the published precision and accuracy of satellite derived temperatures (Robinson 1985), the errors associated with the satellite temperatures presented in these atlases will be larger. It is expected however that the values will still be within the values of accuracy of 1 deg C and precision of 0.5 deg C determined by Robinson and Ward (1989) for the north-east Atlantic.

THE RAW DATA ARCHIVE

Only one NOAA pass per day is dumped to magnetic tape in Downsview. Since some of the data was to be used for monitoring water currents and ice movement off the Labrador coast (atlas areas I and F) this would require the use of visible as well as thermal channels from the sensor, so the daytime pass was selected for preservation. Due to the relatively high latitudes of some of the areas covered by the Downsview receiving station, the quantity/quality of daylight coverage for these areas was improved by selecting the afternoon pass. Hence the vast majority of the existing archive consists of daily passes of the afternoon orbit (only 18 night passes were archived during 1984-1986). This means that the archived data are generally NOT suitable for studying consecutive diurnal or day - night changes in surface temperatures (but see Ikeda 1989) or for short term (6 or 12 hour) velocity calculations from consecutive passes. No assessment of the data is made prior to recording by Downsview; the one pass per day coverage is maintained whether any given area is cloud free or whether the entire pass is cloudy. The eventual application and use of the archived data is left with the end user. All (one pass per day) data are preserved unless technical faults at the receiving station have prevented this. Conversely as far as Canadian east coast users are concerned if the data they need are not in this archive there is a very realistic probability that they do not exist in Canada and users should consult the U.S satellite data agencies such as EDIS (Environmental Data Inventory Service). For purely oceanographic research applications users might also contact the Oceanography Departments at the University of Rhode Island and at the University of Miami both of whom maintain infrared satellite archives of marine areas.

The main applications for the (AES/BIO) archived satellite data are research process orientated studies for time-series analysis. With a great deal of cloud cover occurring off the east coast of Canada, minimal use has been made of real time reception and transmission to ships of either raw satellite imagery or satellite derived SST. Hence the data acquisition arrangement with AES is for historic, not real time data. This data stream therefore would NOT be useful for any real time applications. The data arrive at BIO in batches of 2 to 4 months of data generally between 3 to 6 months after satellite transmission. This delay also allows AES to access the stored tapes for short term and individual requests within the region. At BIO each tape is given an internal tape identification number of the form IAxxxx. This number alone is used for storing and retrieval of the tapes in the local tape repository. Since the pre-November 1988 data from Downsview are recorded in 8 bit format, but transmitted from the satellite in 10 bit format, the data have been processed by AES through a look-up table for conversion. These look-up tables are different for each satellite and for the individual channels on the satellite. When using software which expects the NOAA data to be in 10-bit form (e.g. as with the University of Miami software), it is necessary to reprocess the data through the inverse look-up tables. The AES look-up tables for each channel of NOAA 7 and NOAA 9 are displayed in Figures 1 and 2. [For display and enhancement with image processing routines working with an 8 bit data format such an inverse procedure would not be required.] For detailed information on the pre-November 1988 AES tape format see the relevant internal AES document available on request from the Satellite Data Acquisition Division at AES, Downsview (or contact IAS centre at BIO).

THE QUICKLOOK ARCHIVE

Each IAxxxx tape contains a section of a satellite orbit for the east coast of Canada (Figure 3). The quantity of north-south coverage on a particular tape has varied with time. Each pass is recorded on a single 1600 bpi magnetic tape; 6250 bpi tapes are used since 1988. The afternoon pass is an ascending orbit which means that reception by the Downsview station starts as far down as the southern states of the U.S.A. and reception finishes approximately below the Arctic circle in central Baffin Bay (atlas area K, see Figure 4). Hence these archived satellite data are NOT suitable for Arctic studies and potential users for that area should contact CCRS (for data from their west coast receiving station) or the U.S.A. (for data from their Alaska receiving station). The raw archived tapes contain approximately 3,000 scan lines and hence cover approximately 3000 + kilometres. The data length on tapes has been arranged to give maximum Canadian coverage and to finish at the limit of Downsview's reception in the north. The start location of data reception is adjusted to achieve maximum Canadian coverage on ONE 1600 bpi data tape and the start location is generally in the Boston to New York area (atlas area **A**). The length of data on a tape has increased with time and by the end of 1986 had increased to approximately 4,000 scan lines. Since the afternoon pass will progress eastward each day, the horizontal extent of the data coverage will change with time (Figure 3). Data coverage starts so as to cover the Canadian east coast ocean areas of interest such as the Gulf of Maine (atlas area **A**) and the Gulf of St. Lawrence (atlas area **E**). Occasionally the orbital path takes in parts of Hudson Bay (atlas area **N** for the northern section and atlas area **M** for the southern section) and James Bay (atlas area **M**). However these latter two areas are on the edge of the east coast target area and so the atlases only represent limited coverage; the Downsview receiving station can cover these areas more frequently. Potential users for this location will need to search other data archives for fuller coverage. The eastern limits of this archive correspond to the eastern receiving limits of the Downsview station, which touches on parts of eastern Greenland (atlas areas **L** and **J**) and the North Atlantic Ocean immediately south of Greenland (atlas areas **G** and **D**). These areas are on the outer limit of the target area and coverage by this archive is by no means complete. The eastern limit of the Downsview receiving station just overlaps with the western limits of the satellite receiving facilities at the University of Dundee, Scotland, United Kingdom. Potential users of NOAA imagery for this central northern area of the North Atlantic should access the Scottish and main U.S.A. archives.

(NOTE: Data from any of these other receiving stations will probably be in 10 bit format and in different tape formats).

Since the raw data cover different geographical areas on each day a quicklook is needed to help users identify their area of interest and also to identify the quantity of cloud cover (or lack of it, depending on the application). A compressed overview of each tape is produced on a 35mm photographic slide medium by a contractor using the false colour enhancement routines in the EASI/PACE software package of PCI Ltd. This software is used for the quicklook task since it possesses the capability of loading an image (for display, decimation, enhancement and annotation) directly from tape to display without first having to store the image on disc. Two quicklook slides are produced for every IA tape; first a false colour composite of one visible and two infrared channels and second a black and white shot of the 11 micron infrared channel. Preselected seasonally adjusted contrast stretching routines are used to produce the false colour composite image. The colour contrast selected helps visual identification of land, open water, ice and cloud cover. The single black and white slide is also produced with a seasonal contrast stretching routine which helps to identify potential thermal features in the water. These slides are stored in chronological order in slide carousels for viewing at the BIO Image Analysis facility. As yet no additional quicklooks are available for external distribution.

The alternative means of determining what data are in the IA tape archive is from a listing of holdings. Facilities operating the University of Miami software with the University of Rhode Island data cataloguing programmes will be able to call INVREAD (Inventory Read). This provides a list of the satellite tapes which have been "ingested" through University of Miami procedures. The information contained in this list gives: satellite identifier (e.g. NOAA7), data type (usually LAC for local area coverage), the year and julian day, the time in GMT of the first recorded scan line, the orbit number, the number of scan lines on tape, the number of missing lines (usually 0), a file number (usually 1), the internal (BIO) tape identifier number and finally the first date of ingest for that tape together with a project or user identifier. This data holding list has been attached as an appendix to the atlas for areas **O** and **P**. The list shows that data coverage starts on January 25th 1984 and that the vast majority of data held is from the NOAA 7 and 9 satellites with just 5 passes from NOAA 8 and 33 from NOAA6 up to the end of 1986. The change over between NOAA 7 and 9 occurred in early January 1985. There is no indication from these lists of the quality of the data for a specific application (degree of cloud cover etc) and the east-west coverage of an individual pass can only be inferred from the start scan time. (Since the satellite is sun synchronous it passes over the same location on the globe at approximately the same local time with a slight east-west progression in the start times).

ATLAS CREATION : CONCEPTS

The raw archived satellite data between 1984 and 1986 have been processed into 14 regional and 2 overview atlases of SST. Each one of these areas comprises a three year digital (magnetic tape) atlas. The rationale behind the creation of the atlases dictates many of the processing choices which have been made. The concept behind the atlas creation was to enable the satellite imagery to be distributed as a "quicklook" and to be evaluated as widely as possible by non imagery specialists. Since the processed satellite data still remain in digital format they still have to be analysed by means of an image processing system, but the level of sophistication of required systems can be minimised with adequately pre-processed imagery. The final imagery therefore will be calibrated SST maps which are independent of the specific satellite sensor and should be capable of being displayed on even a simple PC based image system (with appropriate data format reads). The first decision is that NO data will be discarded so that all of the raw data will be placed into one of the areas even though this will result in some of the "edge" areas having temperature non-linearities due to scan angle effects and such areas will not have very comprehensive coverage; the second is that all the areas will be covered at full spatial resolution, that is without decimation. Individual users may later chose to disregard data, to decimate areas, or average data for statistics, but that decision rests with the end user. The full spatial resolution decision dictates the maximum size of an individual area for the BIO processing system to be 1024 by 1024 pixels, which in turn resulted in mapping the east coast into 14 areas or atlases. The details for each area are given in Table 1. For the hardcopy version of this report (as opposed to the digital version on the magnetic tape header file of each atlas) the physical limits of these areas are shown in Figure 4. The atlases are arranged mainly in horizontal sequence. A very simple final mapping projection was chosen having straight parallel lines of latitude and longitude. Although this seems a very primitive form of projection, it is most suited to the simplest form of image processing which sees images as simple arrays. It also allows basic image processing decimation routines to be used to join adjacent atlases, all with a minimal knowledge of co-ordinate systems and projections. The images can easily be remapped into any (e.g. Mercator) co-ordinates by users, especially those already operating University of Miami systems. Some overlap between the atlases has also been allowed. This is more from logistics based on local knowledge of oceanographic studies and is aimed to minimise the number of atlases individual projects have to access. Inevitably there will be some studies which are forced to look at more than one atlas even for relatively small regions such as the Bay of Fundy. [Some of the outer areas have poor coverage so on the basis of probable infrequent access/users and to minimise report costs areas have been combined into five reports as indicated in Table 1.]

ATLAS PROCESSING

The processing of AVHRR satellite images into SST maps was completed with the University of Miami DSP software version August 1988 on VMS version 4.7. The main steps to process large quantities of images are:

1. Ingest and Navigation.

2. Batch processing for atmospheric correction.

3 Remapping into regional areas.

4. Quality assessment and catalogue production.

The University of Miami software has been developed by oceanographic research workers specifically for dealing with imagery collected over the oceans (Cornillon et al 1985). This results in several conceptual differences/approaches in the software as compared with systems developed for land based imagery. The input data for the NOAA/AVHRR are usually a large section of a satellite orbit not a pre-defined segment of data as for Landsat data. By working with all or most of a pass from a receiving station, the probability of finding some cloud free, near nadir area is greatly improved. This area is then used to produce navigation corrections, which in turn are applied to the whole pass so that ocean areas, or coastal areas with cloud covered land can be accurately navigated. For this atlas an entire pass from the Downsview receiving station is loaded to disc. This raw image is navigated and then an atmospheric correction applied to the entire pass. This huge temperature map is then remapped into the 14 regional and 2 overview segments by creating 16 individual transformation matrices. [There is insufficient computer memory to allow the full pass to be transformed and then broken up into regions]. The same 16 transformation matrices are also applied to the accompanying "huge" visible image. Since each daily pass covers a different area, the transformation matrices have to be re-calculated for each pass.

Ingest and Navigation

The raw IA tapes have to be "ingested" into the system. This places the entire pass onto disc and also, for a first ingest of the tape, updates the raw data holding inventory (accessed by INVREAD see U. of Miami Manuals). The pass is automatically named by the software using Year, Julian Day, first scan time in GMT (ZT) and an extension indicating the satellite type. This automatic naming convention is maintained throughout all processing stages so that the information in the raw data holdings (given as an appendix in the report for areas **O** and **P**) can be used to trace or locate any of the intermediate files and can be cross-checked against the final catalogues and tape indexes/directories for the processed images.

EXAMPLE OF AUTOMATED FILE NAMING CONVENTION:

Inventory entry: NOA7 LAC 1984/070 17:54:01
Ingest entry: 84070175401.NO7
Sector entry: M84070175401x.smg
(M -NOAA7, N -NOAA6, L -NOAA8, K -NOAA9); (x -A to O atlas areas).
Atmospheric entry: M84070175401x.fmg
Remap & atlas entry: 84070175401.RMx (M -SST map)
84070175401.RVx (V -visible map)

Satellite information needs to be registered to a co-ordinate system. For land based applications the registration of an image is undertaken against a land map showing features such as roads and rivers (Drury, 1987). The process of making the image fit the map is achieved with "ground control points". These locations are chosen because of their easy identification (intersection of major road systems etc.) and they need to be distributed evenly on all sides of the image. With ocean applications there is immediately a problem: there are few static identifiers to mark an ocean area and coastlines, by their definition, tend to occur on one side of an image only. This means that ocean images require different registration procedures than images for land based applications The University of Miami software uses a registration approach based on the correction of the satellite ephemeris data. "Navigation" is the term given by Miami for relating the satellite data to a latitude and longitude co-ordinate system. (For specific details of the navigation algorithms the reader should contact the University of Miami.) After navigation, however, the imagery will still look distorted and is not in any specific mapped co-ordinate system, the software simply "knows" where the satellite was for that particular orbit number and can hence relate the image to earth co-ordinates. "Ocean Navigation" is conducted in a similar manner to some land based navigation schemes. The coastline is drawn (from the CIA World Database Coastline) on a graphics plane over the image; a section of the satellite pass close to nadir (centre) is identified and redrawn; under magnification the chosen section of coastline is moved around (up/down, left/right) by the operator on the graphics plane until the best fit between the imagery coast and the database coastline is obtained. The software then works out ROLL, PITCH and TIME corrections to apply to the satellite ephemeris data already stored in a database within the University of Miami software. The navigated image is then assessed as an entire pass by the operator to see if the edges/corners of the image are also correct or warrant a YAW correction. All the navigation "corrections" are stored in a further database DBMAN (U. of Miami manuals for access and operation). This means that once a satellite pass has been navigated correctly there should be no further need to re-navigate that pass regardless of the users geographic sub-area of interest. All further analyses will access the navigation corrections for that orbit as stored in the DBMAN database. Conversely since the database only stores one set of corrections per orbit/satellite NO UNAUTHORISED NAVIGATIONS of the raw archived NOAA imagery should be conducted by any user on the BIO system; to do so would replace and hence destroy the established navigation corrections. This cautionary note does not apply to those users who intend to process the finished atlas data or to process the raw data on external sites. Since a database of navigation corrections has been established it is necessary to understand its limitations with regard to processing the atlas data. The raw data will still be distorted but after further processing of the data (still to be described) the images can be displayed on a single mapping projection. This means that all the images within a given regional atlas should, theoretically, overlay each other exactly. In practice, this will not happen and deviations may result from a number of causes. The imagery coastline and the World Database coastline may not match because of flaws in the database coastline itself (version used is July 1987, North American portion) or because areas of image coastline are tidal (e.g Ungava Bay or the Bay of Fundy) or have seasonal ice attached to them so masking the true coastline. Other mismatches between images will arise because of inaccuracies in the chosen navigation. For a very small number of images the navigation corrections procedure will not be valid for the entire pass if the satellite orbital characteristics were changing such as during degassing. The quality of the navigation for a given atlas area will be partly dependent on the distance of that area from the navigation centre; the further the area is from the satellite nadir the more likely inaccuracies will occur. When each satellite pass was navigated any problems arising in the navigation were logged in an navigation error text file NAVERR, the codes indicating the range of problems are given in Table 2. The full error text is added as an appendix to the atlas for areas **O** and **P**. During processing of the atlases from the raw data to the finished SST stage, a log sheet (Atlas Processing Record -APR see Figure 5) was maintained by the technical contract staff. Quality control information was entered onto these sheets together with the area used for navigation and a navigation quality code. These values were later entered into the catalogues for each area. Hardcopy versions of the APR records are available for research users only at the BIO Image Analysis Facility site. In the case of an image in a regional atlas having an offset with respect to a time series of other SST images then the land based methods of "rubber stretching" one image to match a "standard" image can be applied. In the case of images which have no land in the regional atlas there is no method of assessing the accuracy of individual images or ocean features. In that case it is wise to regard any large movement of ocean features as potentially incorporating some navigation error; the probability of a given image being in error could still be related to a combination of distance from nadir and the navigation quality code.

Batch Processing: Sectors and Visible Images

After the raw tapes have been navigated and the DBMAN database checked for an entry the images can be converted into radiometric units. Details of the processing commands are given in the University of Miami manuals. This stage of the processing is called "sectorising" because, for the individual research image (as opposed to the mass production of images for an atlas), this is the stage where a "sector" of the raw data is extracted for analysis. The raw data consist of digital counts which must be converted to radiometric units: albedo, in percent, for the visible channels; and radiance, in mw/m^2 for the infrared channels. The appropriate calibration equations are produced by NASA/NOAA (Lauritson et al 1979). It was found by Brown et al (1985) that it was necessary to consider the internal operating temperature of the sensor in order to produce radiometric calibrations at the ±0.2 deg C level. This atlas used the NASA/NOAA look-up tables for radiometric calculation.

The AVHRR sensor has several channels operating at different wavelengths. Two of these channels are situated in the visible portion of the electromagnetic spectrum (from 580 to 680nm and 725 to 1,100nm) and give wide band views of the land/ice/ocean interfaces. The remaining channels are situated in the infrared region of the electromagnetic spectrum and are slightly different between the odd and even numbered NOAA systems (see Maul 1985, Robinson 1985). The visible channel is useful in interpreting ocean imagery for at least two applications: clouds and ice. The SST algorithm described below will empirically convert the satellite signals into sea surface temperatures. The algorithm will do this for any pixel value regardless of whether that value is truly ocean water or not. Numerous schemes have been investigated for determing and classifying cloud cover (e.g. Coakley and Bretherton 1982, Crosby and Glasser 1978, Hunt 1973, and Saunders et al 1982) which may then allow users to mask out data not to be converted to a SST. Most schemes utilise the visible band so that night imagery requires alternative schemes. With night imagery more than one SST algorithm is used and if the predicted SST's do not fall within certain limits then the data are assumed to be contaminated (McClain et al 1985). The U of M algorithm allocates an opaque cloud a value of SST; a standard of zero degrees is usually used since this value is not mistaken for anything other than a cloud in warm ocean areas. For Canadian waters, where the temperature of seawater can reach as low as -1.8 deg C, and in particular for the regional atlases, the cloud limit or first order cloud discriminator has been set at -3 deg C. However since not all clouds are completely opaque, but are thin enough to allow some transmission, these will give FALSE SST values. In general such false temperatures are seen as cool patches and sometimes may be easily identified in the thermal imagery. As a means of assisting the true interpretation of the imagery, each fully processed SST image is accompanied on the digital (magnetic) tape by the corresponding mapped region from a visible channel (2) of the AVHRR sensor. Displaying the visible image (often in a grey scale) in sequence with the temperature image provides a quick method of identifying thin cloud regions. Features such as thin clouds extending off the coast over the ocean can help to identify "anomalous" ocean patches as contaminated SST data which will have to be discarded. Use of simple and fairly standard density slicing routines (usually available as part of any simple Image Processing package) on the visible image can produce "masks" to blank out these contaminated data areas in the thermal imagery. The second application for the visible channel, in Canadian waters, is similarly to blank out ice contaminated data from the thermal imagery. Some ice related information may be retrieved from either the single visible band or from the visible/thermal pair of images, but in general this set of SST atlases are NOT directly applicable to the remote sensing of ice conditions and movement. Such applications tend to make more use of the individual spectral bands (Petersen 1987). The information on navigation, mapping, quality control and catalogue entry all apply equally well to the final visible map as to the thermal map.

Batch Processing: Temperature Algorithm

The application of a SST algorithm to the infrared channels is also referred to as an atmospheric correction. This is because present satellite sensors have infrared channels (3, 4 and 5 on the AVHRR) situated in atmospheric windows which allow slightly differing quantities of radiation to pass through them and this feature can be used to eliminate, or at least minimise, atmospheric effects. The IR radiance received by the satellite depends on the atmospheric temperature profile as well as the distribution of water vapour, carbon dioxide and ozone in the atmosphere. Hence the NOAA satellites provide information to the meterologists which is undesirable noise to the oceanographers. Early SST algorithm work concentrated on parameterising atmospheric effects as a bulk correction to SST estimates. Anding and Kauth (1970, 1972), Maul and Sidran (1972), Prabhakara et al (1974) and McMillan (1975) all used linear relationship between water vapour attenuation (Bignell 1970) and the apparent temperature in particular infrared bands. Atmospheric models (Deschamps and Phulphin 1980, McMillan and Crosby 1984, Barton 1983, 1985) helped provide a further theoretical basis behind multiple-window algorithms. Comparisons with sea surface measurements were good (Tabata and Gower 1980, Bernstein 1982) but more detailed work soon found the need for a temperature-dependent bias correction (McClain 1981, McClain et al 1983, Strong and McClain 1984).

The quantity of reflected solar radiation also varies among these different windows and varies with the time of the satellite overpass. There is no reflected solar radiation at night and so different temperature or atmospheric correction algorithms are used for day and night passes. In general channel 3 (3.7 microns), which contains the largest contribution from reflected solar radiation, is not used in day time algorithms. For the odd numbered series of satellites (7,9 etc) this means that channels 4 and 5 are used in the SST calculations. Since the even numbered series (6,8 etc) have no channel 5, a 3,4 algorithm is applied, but has a low level of reliability. Very few images in this archive are from NOAA 6 and 8 and their correct use is anticipated only in tracking ocean surface features etc., and not in combination or composition with images from the odd numbered sensors. For the NOAA-7 satellite the global 2-channel day (and night) algorithms from McClain et al 1983 were used and for NOAA-9 the algorithms from McClain et al 1985 were selected (but see Calibration section). A master computer file is normally made up for batch processing which guides the imagery through the appropriate processing routines. The satellite type is taken automatically from the satellite pass (IA tape) so that no human intervention is required to identify and direct each satellite type through the processing stages; for example automatic reading of the orbital time of day will dictate whether a night or day processing algorithm is performed.

Although numerous satellite algorithms have been determined and sucessfully tested against SST in-situ measurements (Strong and McClain 1984, Njoku 1985, Pearce et al 1989, Robinson and Ward 1989), not many of the algorithms have been validated at the cold end of the temperature scale (-2 deg C to + 5 deg C). Most satellite algorithms are verified by statistical methods with the best results obtained for large dynamic ranges in temperature, so that many algorithms have been more globally (or basin) than regionally orientated. In some cases regional atmospheric algorithms may be required to cope with specific atmospheric conditions (desert dust clouds, chinook winds, volcanic eruptions etc.). Given that the raw archived satellite data have already been clipped into 8 bit format, this data stream may not be optimal to distinguish between published SST algorithms.

The default algorithm used throughout the atlases was the GLOBAL two channel SST algorithms originally derived from NOAA buoy-satellite comparisons and given in McClain et al 1985. These algorithms are valid for a range of scan angles up to approximately 50 degrees. Several studies have noted large temperature deviations/predictions at large scan angles and some correction schemes have been devised (Maul 1983, LLewellyn-Jones et al 1984, Cornillon et al 1987). Robinson and Ward (1989) recommended that even after correction, data outside ±900 pixels from nadir should not be used. The McClain et al (1985) algorithm would be valid for approximately upto ±750 pixels from nadir. (Maximum data extent is 1024 pixels from nadir). The scan angle effect is still subject to further research and although several algorithms (corrections) have been devised for NOAA-7, few (at time of atlas production) were known for NOAA-9 imagery. In the future new satellite sensors (e.g. ATSR Along Tracking Scanning Radiometer) are being devised to sample the atmosphere through more than one look angle (Harries et al 1983) in order to eliminate/minimise atmospheric effects. For the current users this atlas has lost access to the scan angle/nadir information except by deduction or visually from Atlas O. This overview atlas (O) is presented on an 11:1 decimation so that all passes can be observed on the same 512 by 512 display and projection; this should allow users to overlay their atlas area co-ordinates and determine approximate pixel values. As with cloud contamination, the most likely scenario for an edge image is rejection from a numerical time-series analysis but inclusion for feature identification. If Atlas area O has not been acquired the user can deduce some scan angle information from each catalogue. If a 1024 by 1024 area has not been filled then it must contain the edge of the satellite pass (remember all data have been preserved and there are no remap clippings - see next section). The progression of an atlas area towards or away from nadir can also be approximated from the catalogue information. The lower temperature limit for all the atlases was set at -2.5 deg C with an upper limit of 27.5 deg C and a temperature resolution of 0.125 deg C. Both the upper and lower limit may occassionally be exceeded: the upper limit simply by the presence of very warm (e.g. Gulf Stream) water; and the lower limit because of possible non-linearities in the temperature radiation relationship or increased inability to eliminate subpixel cloud/ice contamination at very low temperatures. In general both these occurrences and the geographical area affected should be minimal. The fixed temperature range and resolution for all atlas areas was chosen as part of the initial objective of producing the simplest data set to work with on all levels and types of image processing systems (but see Calibration section).

There are many restrictions on the accurate interpretation of satellite derived temperatures. Most of these limitations are connected with the physics of monitoring infrared radiation. Oceanographers work within the 3-dimensional domain of the ocean (Robinson 1985). Surface measurements by oceanographers generally mean a temperature taken from anywhere from the top 5 metres of the ocean. These values have been obtained (1) by ships of opportunity either from traditional bucket samples or from engine intake pipes as the ship is underway or (2) from station measurements employing CTD (Conductivity /Temperature/Depth) profiling devices. The satellite however "sees" only the top few millimetres of the water column or the "skin" of the ocean (Paulson and Simpson 1981). Such a thin layer is often dramatically effected by changes in the air-sea interface (Robinson et al 1984). Strong solar heating in calm weather can produce a distinctive diurnal rise in the skin temperature which may result in apparent mismatches between satellite and ocean collected data. This diurnal heating can sometimes be detected by comparison between consecutive day-night passes (Robinson 1985). Conversely Stramma et al (1986) used in-situ and carefully extracted satellite derived SST data to examine diurnal warming events of more than 1 deg C, exceeding on occasion 300,000 km^2, for depths up to 1 to 2m. They noted that estimates of long term SST fluctuations have to take into consideration the time of the satellite pass as part of the computation. For this (AES/BIO) data archive of afternoon passes such day-night comparative checks will not be possible and users should be wary of short, sudden or local increases in surface temperature, especially if linked to periods of calm sunny weather. Although this skin temperature problem appears to make the use of daytime imagery less desirable, the use of night time imagery also has its own problems. The channel specifically designed for optimum night work is channel 3 (approximately 3.7 microns) and this channel has had persistent design flaws (Warren 1989) which appear about 3 to 6 months after satellite launch. The data are sometimes useable but often have a herring bone pattern (Warren 1989) superimposed on the image. Conversely some areas off the east coast of Canada are noted for fog cover which can often be quickly detected with day time visible imagery. Hence although there may be additional or unwanted variability occurring in day time imagery there are limitations and restrictions on using any form of satellite derived SST maps. The end users of the atlases must be familiar with the most likely sources of errors or anomalies for their own study areas.

Batch Processing: Map Projection

Although the projection of images into a given co-ordinate system has already been mentioned several times, it is in fact the last stage in the batch processing sequence. After application of the atmospheric correction/temperature algorithm the images are still in the distorted projection as seen by the individual satellite orbits. The University of Miami software has stored the navigation corrections for each orbit and so "knows" where that image is in terms of earth latitude and longitude co-ordinates. Within the U of M framework it is possible to draw coastlines and grids, place bathymetry contours, extract ocean station data and in general work with the images within their individual distortions. Since in effect the image is already mapped, the next stage is referred to by Miami software as "remapping". Research users may chose to remap by performing transformations into a specific map projection if they wish to observe changes between images or wish to produce a polished product for publication or display. Once outside the framework of the U of M system however the images can only be compared if they have all been transformed onto a common projection. Most land projection-mapping routines clip off the edges of an image in the new projection because a fixed array of data will not have sufficient area coverage to provide data for all elements in a new projection. Miami software avoids this "clipping" phenomenon since by working with the entire satellite pass it can process larger quantities of data from the start. For example, if a user chooses a 1024 by 1024 image as a desired output map size, the sectorising routine can be set up to take a 2048 by 2048 section of data out of the satellite pass. This larger working size is passed down through all the processing stages (atmospheric correction etc.) until it reaches the remapping routine. At that stage the routine has enough data to fill all the data elements for most of the 28 available remapping procedures (see U. of Miami manuals for details).

The main exceptions to this rule are for border areas of an individual pass for which there is not enough data from that pass to fill the remapped area even with the larger data extraction. This means that under our initial objective of preserving all data, any blank areas in a processed image are due to an absence of available data in our archive and not from projection clipping. Two of the most common projections used by oceanographers are Mercator and Lambert Conformal. Different projections have different benefits (Bernstein 1983) and it is arguable that some projections preserve satellite features more accurately than others for large scale processing (Lloyd and D'Souza 1987). Many oceanographers simply stick with the projections with which they are familiar or for which they have other data sets - generally Mercator. As part of our initial objective to produce the simplest possible atlas, a non-oceanographic projection was selected. These atlases have a basic square projection, that is with parallel lines of latitude and longitude, called "Old style" code number 1 in the U of M remapping routines. Users of a U of M system can simply remap the atlas images into any of the 27 alternative projections available on the system. However, since any further remapping on a Miami or other system will only have the final 1024 by 1024 images to work with, the resulting image will usually display clipped areas. Other (non-Miami) users would have to create specific software to undo and replace the projection and so may prefer to stay with the given projections.

Graphics Overlay

There are some basic operations connected with these images which could be difficult to reproduce on some simple processing systems. An example is the reproduction of a graphic coastline for a landmask . Hence a standard or reference set of graphics (or bit planes) has been provided for each atlas (see Figures 6 onwards). These graphics consist of, where applicable:

i) coastline

ii) bathymetry contours

iii) latitude and longitude grid lines

and they are located on the first volume of each area of the atlas tapes. Plots of the graphics shown in this report have been slightly modified for clarity. In the digital atlas version the grid lines (latitude and longitude) are drawn in full at the 2° intervals indicated on the diagrams and the land masses have not been filled in (an easily available option on most image systems). The graphic overlays represent fairly elemental display/analysis tools for the scientist; for example combining two adjacent land areas should show continuity of the coastlines. The coastline overlays have all been carefully selected from the the best navigated images for that area. It is hoped that if the naviagation and remapping errors are small enough, then one carefully selected set of graphics can act as the "standard" for that area of the atlas. This means that large deviations from that standard can be considered an error and that image either discarded, reprocessed on a Miami based system or corrected with "rubber stretching" routines (Drury 1987) available on basic image processing systems.

That is the principle; in practice some immediate problems arise. Graphic display formats and manipulations are more variable between both hardware and software systems. Even simple decimation for graphics is absent on most systems. (This feature is now apparently available on the PCI EASI/PACE software for version 4.1.) This means that if users have a work station rather than an image processing terminal, they may have limited options of working with the graphics provided. In this context an image terminal is one which comes in exact multiples of 512 by 512; most work stations do not e.g. the BIO SUN/3 comes with a maximum window of 960 by 1130 but can only work with an image window of 840 by 840. This automatically means that the processed images cannot be displayed in full resolution except by one section at a time. It also means that a user can only work with the preprocessed graphics in a 512 by 512 window and hence with an image of only one quarter the resolution of the original. The options for true image terminals are to work with either the 512 by 512 image/graphics or 1024 by 1024 image/graphics. To maximise all the options the graphics in the atlases have been provided in both 512 and 1024 (in the form of four 512 sections) sizes. Of course users may write additional software to achieve these additional graphics manipulations. Alternatively, if coastline and bathymetric databases are available, users may prefer to generate their own graphics once their systems recognise the given image projection co-ordinates.

Quality Control

With the completion of all the atlases for 1984 to 1986 approximately 30,000 images have been created and stored in 16 atlases with an average of 20 volumes (magnetic tapes) per atlas. This number of images will undoubtedly lead to human error and operational procedures were included in the hopes of minimising such errors. A series of manual checklists were installed at various stages in the "production line" of image creation. A very detailed list of these checks can be found in the contactors final report (Seakem 1989) available from the contractors report section of the DFO/BIO library. The final series of checks are covered by the APR (Atlas Processing Record) sheets which cover the progress of work conducted on each IAxxxx tape from the time it left the government tape repository to its eventual return. The APR sheets (Figure 5) cover 7 main categories of processing during which different checks were made. These categories are: Ingest, Navigation, Navigation Confirmation, Batch submission, Batch run, Batch checking and Backups. Many of the checks installed are relatively simple and consist of confirmation that a specific job has been successfully completed as intended (e.g. that specific image files have been created and checked off before the next stage of processing begins.)

In order to save disc space only those satellite channels specifically required for processing of a specific pass were ingested. BIO Ingest procedures require a check that the correct channels have been ingested according to the satellite type (even or odd). A check was also made that the full number of lines of data had been transferred from tape to disc (that is all the data were analysed). Most of the errors encountered at this stage and logged into the file READERR.txt were corrected on a second attempt unless a tape remained unreadable. The READERR files are available onsite.

The Navigation quality control however requires much more visual assessment and checking. After a navigation correction has been made it needs to be assessed. A first visual assessment or confidence rating for the direct area being navigated is made using the levels; GD - good, OK- fine, PR- problem (only given after the second attempt), NN - not navigable, I - interpolated navigation. These last two categories have entries in the NAVERR.txt file appearing as an appendix in atlases **O** and **P**. The latitude and longitude used to perform the navigation are recorded, as are the atlas division into which this area falls and the distance of the location from the satellite nadir. An additional check on the navigation is made by looking at the level of accuracy for the pass as a whole. This is done by comparing the WDBII coastline with the land around the edges of a scene. This could result in the need for a YAW correction, in which case an entry is made in the NAVERR.txt file. The degree of the YAW correction is qualified by levels of 3,2,1.5, or 1 (see Catalogue section for code). Indirectly the degree of cloud cover is one of the largest contributors to navigation error. If clouds cover a sufficient proportion of the image there may be inadequate coastlines available to perform an accurate navigation. Since the level of accuracy obtained in navigation tends to be subjective and will also propagate throughout the analysis, a Navigation Confirmation is performed.

Where possible this consists of another operator independently checking the image/coastline agreements and quality codes assigned.

Most of the Batch submission and run checks consist of keeping track of files submitted and created during processing. The average real time used by the batch jobs (all regions) running overnight (system at minimal use) was between 1.5 and 2.5 hours depending on use. This allowed about 4 satellite passes to be processed each night. In order to complete the atlas within the specified timeframe it was necessary to pass additional images to another VAX system via ethernet connections. This micro-VAX was only used to perform some of the required tasks so that further checking was required when images were returned to the main VAX-750. All the errors occuring during this section were recorded in BAERR.txt which is available onsite. As with many of the READERR entries, problems within this section of the processing could be corrected and the analysis repeated.

At the Batch checking stage there were again more quality assessments. The overview atlas (O) was used to confirm which divisions of the atlas did have data in them and to check off both via directories and the manual display of divisions that all these areas were correctly assigned. Checks were made that each IR and visible image were present and held valid data, were the appropriate area and that the IR/VIS pair matched. The overview area was also used to estimate the quality of the satellite data for SST (only) content. The levels of assessment used were VG, G, P, S, and O (see Catalogue section for code). The divisions were also examined for significant quantities of thin cloud which could appear as false SST values; an additional qualifier of C was added to the above if this category could be determined by purely visual means.

At the backup stage the quality control checks again consisted of keeping track of jobs, especially if consecutive backup was delayed by individual problem files. After completion of all three years of the atlas, the first year of the final tapes containing the preprocessed images were read to ensure that all data files could be retrieved. At this stage about 0.05% of the data was unreadable and because of the small number involved those files were reprocessed. Years 2 and 3 (85, 86) were not checked (due to fiscal limitations) but the same low level of unreadable images is anticipated.

CALIBRATIONS AND PROCESSING ERRORS

One of the largest drawbacks to performing so many production like operations in a research environment is that any software/technical problems which arise tend to hold up the production line. With contract work the usual solution is to advance with all images through those stages of the production which can be completed. This has the drawback that some inaccuracies or inconsistencies in choice only show up in later stages of the processing by which time insufficient resources (either person-years or money) are left to produce a more consistent routine or assessment.

Errors or inconsistencies will exist at various stages in the atlas processing and end users are requested to please log all errors affecting their atlas and provide feedback to BIO. Some of the errors are relatively minor , although annoying, and become obvious as the user passes through each stage in the use of the atlas. The catalogue entries record 100% data only as 99%, some entries in the atlas indicate 0% data (then why an entry at all?), for others there is no navigation accuracy code given. When retrieving images from the atlas tapes, a very small fraction will probably be unreadable. When working with a series of images the navigation will not be at the same level of accuracy for all images in the series. As the images are used to produce temperature maps or composites several technical/scientific limitations apply (see previous sections). All the images were intended to have the same pixel-dump temperature scale, but due to a human processing error at an early stage this did not happen.

For NOAA 6 and 8 pixel-dump to temperature conversion:

$$\text{Temp } ^\circ\text{C} = 0.125 \times \text{pixel dump} - 3.00 \qquad \text{[NOAA 6 and 8]}$$

For NOAA 7 and 9 the temperature conversions have an additional processing error of ± 2 counts at one standard deviation. For NOAA 7 the pixel dump to temperature conversion is:

$$\text{Temp } ^\circ\text{C} = 0.131 \times \text{pixel dump} - 4.66 \qquad \text{[NOAA 7]}$$

For NOAA 9 the pixel dump to temperature conversion is:

$$\text{Temp } ^\circ\text{C} = 0.119 \times \text{pixel dump} - 1.41 \qquad \text{[NOAA 9)}$$

The Atlas images were processed using standard NASA NOAA 9 radiometric conversions for each channel. If the user wishes to compare atlas temperatures to other NOAA-9 temperatures processed with the non-linear (n-1) radiometric conversions (Brown et al. 1985) then the approximate conversion formula is:

$$\text{Temp (n-1) } ^\circ\text{C} = 0.131 \text{ pixel dump} - 3.76$$

The error associated with this conversion is ± 4 counts. Because of the processing error the temperature range of the different types of imagery is slightly different. Temperatures were output to the atlas images at integer levels between 4 and 245; integer levels outside this interval were allocated to masks (e.g. all cloud areas in the images have a digital pixel dump of 4). Although a temperature conversion is provided for NOAA 6 and 8, accurate temperatures cannot generally be derived from these satellites (see previous sections). With consideration for the 2 count processing error, the typical temperature range retrievable from the NOAA 7 atlas images (after use of the above conversion equations) is – 4°C to 27°C and for the linear NOAA 9 atlas images – 0.7°C to 27.5°C. These changes in minimum temperatures will also mean minor inconsistencies in the recorded histograms of amount of non-cloud data given in the catalogues (see Appendices). Temperature data below approximately minus 1°C for NOAA 9 and minus 4°C for NOAA 7 will have been logged as cloud. This will have a minor effect on the majority of warm images but will mean that some (– 1.8°C to approx – 0.8°C) true cold water temperatures have been irretrievably lost in the NOAA 9 atlas images. (These could still be retrieved from the original AVHRR archived tapes). The additional errors introduced in the processing stage are still relatively small compared to the typical ± 8 counts (± 1°C) accuracy associated with the comparison of satellite data with measured sea surface temperatures (Robinson and Ward 1989). The temperatures derived from the conversion equations are still satellite global estimations and actual temperatures for the east coast of Canada may have different absolute values, particularly if dependent on or biased towards any of the limitations previously discussed. Local algorithms have not been discussed in this report but interested users may contact BIO for any updated improvements on local algorithm performance.

CATALOGUE AND TAPE INVENTORIES

To access a digital atlas, which unlike a traditional atlas cannot be seen without the assistance of a computer, a catalogue (see Appendix 1) of available images is required. The catalogue has to relate sufficient information to users so that they can choose images appropriate to their applications. The basic information of YEAR, JULIAN DAY, file number, IR no. and VIS no., and volume number, VOL, for an atlas division will allow the user to locate images (maps) of both temperature and visible data. The term ND indicates that there is no raw tape in the AES/BIO archive for that julian day, NA indicates that there is no area for this division, the daily satellite pass falls outside the atlas area. A decimal addition after the julian date indicates the hour in GMT of the satellite pass when two daily passes have been recorded by AES. The amount of useful data to be retrieved can be judged from the information of %D, percentage of stored area which has data, and %clr, percentage of real (as opposed to stored) data which does not include solid (i.e. opaque) cloud cover. Due to inconsistencies between various histogram programmes full coverage is logged as 99% not 100%. The difference is considered sufficiently small not to affect the use of the catalogue. Depending on the application, users for SST can minimise data retrieval by using the following quality assessment codes:

VG	very good; the data are consistent and appear to show SST patterns.
G	good; the data are nearly coherent.
P	patchy; large patches of data are interspersed with cloud.
S	speckled; the data only exist as small (< 50 pixel) areas.
O	little or no SST data exist in the area.

These codes may also appear in combination; e.g. PS in which case the dominant qualifier appears first. The appendum /C indicates the visual presence of thin cloud cover likely to contaminate SST values (see Quality Control section). For many applications these catalogue entries will be sufficient to allow a user to select data. When a user's application involves the accurate location or accurate estimate of movement of a feature or the composition of numerous images then an assessment of navigation accuracy (NAV ACC.) and confidence (NAV Conf.) will be required. The categories for navigational confidence are simply GooD, OK, or PRoblem. The qualifier /n is coded by:

3	if there are land areas visible in 3 opposite corners then the yaw correction should improve the navigation.
2	if two opposite corners can be seen at their extremes then the yaw correction should be fairly good.
1.5	if two opposite corners can be seen, but only one is at the extreme then the yaw correction is probably useful.
1	only one corner can be seen and no valid yaw correction can be made.

Yaw corrections are not used frequently by BIO researchers working with regional data and hence the local level of experience of both applying and evaluating yaw corrected images will be less than for the other types of navigation corrections. Users should bear this in mind when working with yaw corrected images and any feedback to BIO would be much appreciated. The parameters for the navigation accuracy are the distance in pixels of the navigation centre from satellite nadir and the atlas division in which navigation was conducted (e.g. 72/F indicates 72 pixels from nadir, atlas area F). The satellite (SAT) type NOAA 6,7,8,or 9 is included in the list and will be of use to avoid including 6 and 8 images in any composites or time series of station temperatures. These satellite images can, however, be used to follow features etc. (see earlier sections). The other item in the catalogues is the IA# containing the raw satellite pass. This only has direct application for use at BIO but can be linked to the data holding list to identify the pass specifically if a user is searching other databases for additional passes for that day, or the same pass at a full 10 bit accuracy.

ACCESS TO ATLAS AND CATALOGUES

The first access to information about the catalogue of processed SST/visible images is via the traditional means of a hardcopy data report in the Canadian Data Report Series available to libraries and individual users. Since many planned or future data/information systems will include direct computer access to data and data searching methods, an initial link between traditional hardcopy and "electronic" catalogues has been achieved by storing the report and catalogue information on the VAX at the BIO Image Analysis Facility. Users who have authorised access to networks into the DFO/BIO/VAX ethernet system may log into a "captured" (limited access, read only) user account called ATLAS. The current password for this account can be obtained on request. The structure of the account and the file naming procedures are displayed automatically after login. Operations within this account are via standard VAX/VMS commands such as directory/type/print etc. The type of VAX editor most useful to the user to scan and manipulate the catalogues will depend on the users own terminal/keyboard type.

The processed SST and visible images are only available on magnetic tape in ANSI-labelled format (American National Standard X3.27 - 1978). Potential users unable to handle this format should contact the systems manager at the BIO Image Analysis Facility for advice. The images and graphics on these tapes are direct copies of Miami files in Newstyle (post 1987) format. Individual users will need to write appropriate tape read/input routines to handle such foreign formats. Format details are given in the U of M manuals, DSP Image File Format (August 24 1988) available from the University of Miami or from the BIO systems manager. The digital atlas tapes are available to outside research users and educational establishments on the same basis and regulations as those governing the transfer of non-imagery DFO marine data. Requests for guidelines and clearance for commercial and non-DFO related use of the atlases should be directed to the Industrial Liaison Officer at BIO.

For external users who have acquired the atlas tapes for use on their own VAX/VMS system, files are retrieved from the atlas magnetic tapes with the VMS COPY command after mounting the tape with the VMS mount command, using a block size of 6144. The standard VMS wildcard facility can be used when naming the file(s) to be retrieved from the atlas tape. It is not necessary to specifically "skip" unwanted files as only those named in the COPY command will be retrieved. The first volume (tape) of each atlas also contains some additional files as per the following example for atlas area x:

REPORT.TXT	(the text of this report, diagrams excluded)
CATx84.TXT	(catalogue for year 1984 for atlas area x)
CATx85.TXT	(catalogue for year 1985 for atlas area x)
CATx86.TXT	(catalogue for year 1986 for atlas area x)
READERR.TXT	(Read error log - see quality control section)
NAVERR.TXT	(Navigation error log - see navigation section)
BAERR.TXT	(Batch error log - see quality control section)
SKx1.LIS to SKxn.LIS	(A directory listing of the file/image names for each volume (tape) 1 to n for atlas region x).

These header files on the first volume are immediately followed by the processed images, SST and visible, starting from January 25th 1984. Any of these text files can be retrieved from the tape with the copy command and viewed or printed with the VMS LIST or PRINT command after retrieval.

SUMMARY

This report has outlined the production of a pilot atlas of satellite imagery. All the images have been converted to either a temperature or a visible (albedo) map with intended identical range and with the same map projection. The limitations of the data have been identified at the various processing stages. Much of the research work being conducted in this field aims at producing better imagery with the expectation that the next generation of satellite sensors (e.g. ATSR - Along Track Scanning Radiometer) will achieve these improvements. However, all the limitations on the correct and accurate interpretation of the satellite data should not hide the very successful studies and applications to which these data have been put. This archive of data has been used in studies such as Petersen (1987), Petrie et al (1987), Gratton et al. (1988) and Ikeda (1989) and many similarly successful oceanographic studies have been conducted using other infrared satellite archives e.g. Simpson and Bowers (1979); Brown et al. (1983); Olson et al. (1983); Evans et al. (1985); Brown et al. (1986); Cornillon et al. (1987).

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This prototype atlas was created using the software created at the Rosenstiel School of Marine and Atmospheric Science, University of Miami. Considerable thanks are expressed to Drs. Otis Brown, Bob Evans and to Jim Brown and the Miami group in general who have helped BIO maintain a research capability in satellite image processing and provided scientific advice and support.

REFERENCES

Anding D. and Kauth R. (1970). Estimation of Sea Surface Temperature from Space. Remote Sensing of Environment 1, 217-220.

Anding D. and Kauth R. (1972). Reply to the Comment by G.A. Maul and M. Sidran. Remote Sensing of Environment 2, 171-173.

Barton I.J. (1983). Dual channel satellite measurements of sea surface temperature. Quarterly Journal of Royal Meteorological Society 109,365-378

Barton I.J. (1985). Transmission Model and Ground-Truth Investigation of Satellite-Derived Sea Surface Temperatures. Journal of Climate and Applied Meteorology 24,508-516.

Bernstein R. L. (1982). Sea Surface Temperature Estimation Using the NOAA6 Satellite Advanced Very High Resolution Radiometer. Journal of Geophysical Reserach 87,C12, 9455-9465

Bernstein R. (1983). In: Manual of Remote Sensing Volume 1. Chapter 21: Image Geometry and Rectification. American Society of Photogrammetry. 1232pp.

Bignell K.J. (1970). The water vapour continuum. Quarterly Journal of Royal Meteorological Society 96,390-403.

Brown O.B., Brown J. W., Evans R.H. (1985). Calibration of Advanced Very High Resolution Radiometer Infrared Observations. Journal of Geophysical Research 90,C6, 11667-11677.

Brown O.B., Cornillon P.C., Emmerson S.R and Carle H.M. (1986). Gulf Stream Warm Rings: A Statistical Study of Their Behaviour. Deep Sea Research 33, 11/12, 1459-1473.

Brown O.B., Olson D.B., Brown J.W. Evans, R.H. (1983). Satellite Infrared Observation of the Kinematics of a Warm-core Ring. Australian Journal of Marine and Freshwater Research 34, 535-545.

Campana S.E. and Hurley P.C.F. (1989). An age- and temperature-mediated growth model for cod (Gadus morhua) and Haddock (Melanogrammus aeglefinus) larvae in the Gulf of Maine. Canadian Journal of Fisheries and Aquatic Sciences. 46, 4, 603-613.

Coakley Jr. J.A. and Bretherton F.P. (1982). Cloud Cover from High-Resolution Scanner Data: Detecting and allowing for Partially filled fields of view. Journal of Geophysical Research 87,C7 4917-4932.

Cornillon P., Gilman C., Stramma L., Brown O., Evans R., Brown J. (1987). Processing and Analysis of Large Volumes of Satellite-Derived Thermal Infrared Data. Journal of Geophysical Research 92, C12 12993-13002.

Crosby D.S. and Glasser K.S. (1978). Radiance Estimates from Truncated Observations. Journal of Applied Meteorology 17,1712-1715.

Deschamps P.Y. and Phulphin T. (1980). Atmospheric correction of Infrared Measurements of Sea Surface Temperature using channels at 3.7, 11 and 12um. Boundary-Layer Meteorology 18, 131-143.

Drinkwater K.F. and R. Myers. (1987). Testing predictions of marine fish and shellfish landings from environmental variables. Canadian Journal of Fisheries and Aquatic Science. 44. 1568-1573.

Drury S.A. (1987). Image Interpretation in Geology. Allen and Unwin, London. 243 pp.

Evans R.H., Baker K.S., Brown O.B. and Smith R.C. (1985). Chronology of warm-core Ring 82B. Journal of Geophysical Research 90, C5, 8803-8811.

Gratton Y., Mertz G. and Gagne J.A. (1988). Satellite Observations of Tidal Upwelling and Mixing in the St.Lawrence Estuary. Journal of Geophysical Research 93, C6, 6947-6954.

Hachey H.B., (1935). The effect of a storm on an inshore area with markedly stratified waters. Journal of Biological Board of Canada 1, 227-237.

Hachey H.B., (1937). Ekman's theory applied to water replacement on the Scotian Shelf. Proceedings of the Nova Scotia Institute of Science. 19,264-276.

Harries J.E., LLewellyn-Jones D.T., Minnett P.J., Saunders R.W. and Zavody A.M. (1983). Observations of sea-surface temperature for climate research. Philosophical Transactions of the Royal Society of London. A 309, 381-395.

Hunt G.E. (1973). Radiative properties of terrestrial clouds at visible and infra-red thermal window wavelengths. Quarterly Journal of Royal Meteorological Society 99,346-369.

ICES (1962). Mean Monthly temperature and Salinity of the surface layer of the North Sea and Adjacent Waters from 1905 to 1954. Conseil Permanent International pour l'exploration de la mer service hydrographique. Charlottenlund Slot - Danemark.

Ikeda M. (1989) Snow Cover Detected by Diurnal Warming of Sea Ice/Snow Surface off Labrador in NOAA Imagery. IEEE Geophysical and Remote Sensing. 27, 5, 552-560.

Isemer H-J. and Hasse L. (1985). the Bunker Climate Atlas of the North Atlantic Ocean. Vol 1: Observations pp 218. Vol 2: Air-Sea Interactions pp 252. Topics in Atmosphere and Oceanographic Sciences. Springer-Verlag:Berlin.

Lauritson L., Nelson G.J. and F.W. Porto (1979). Data extraction and calibration of TIROS-N/NOAA radiometers. NOAA Technical Memorandum. T.M.NESS 107, 81pp.

Legeckis R. (1979). A survey of world wide SST fronts detected by environmental satellites. Journal of Geophysical Research 83 C 4501-4522.

LLewellyn-Jones D.T., Minnett P.J. Saunders R.W. and A. M. Zavody (1984). Satellite multichannel infrared measurements of sea surface temperature of the N.E. Atlantic Ocean using AVHRR/2. Quarterly Journal of Royal Meteorological Society, 110, 613-631.

Lloyd D. and G. D'Souza (1987). Mapping NOAA-AVHRR imagery using equal-area radial projections. International Journal of Remote Sensing: Letters 8, 12 1869-1878

Maul G.A. (1985). Introduction to Satellite Oceanography. Martinus Nijhoff Publishers. Dordrecht pp 606.

Maul G.A. and Sidran M. (1972). Comment on "Estimation of Sea Surface Temperature from Space" by D. Anding and R. Kauth. Remote Sensing of Environment 2. 165-169.

Maul G.A. (1983). Zenith Angle Effects in Multichannel Infrared Sea Surface Remote Sensing. Remote Sensing of Environment 13, 439-451.

McClain E. P. (1981). Multiple Atmospheric-Window Techniques for satellite derived sea surface temperatures. In Oceanography from Space edited by J.F. Gower. Plenum Press p 73-85.

McClain E.P., Pichel W.G., Walton C.C., Ahmad Z. and Sutton J. (1983). Multi-channel improvements to satellite-derived Global Sea Surface Temperature. (1983). Advanced Space Research 2,6, 43-47.

McClain E.P., Pichel W.G. and Walton C.C. (1985). Comparative Performance of AVHRR-based Multichannel Sea Surface Temperatures. Journal of Geophysical Reserch. 90. C6. 11587-11601.

McMillin L.M. (1975). Estimation of sea Surface Temperatures From Two Infrared Window Measurements with Different Absorption. Journal of Geophysical Research 80. 36. 5113-5117.

McMillin L.M. and D.S. Crosby (1984). Theory and Validation of the Multiple Window Sea Surface Temperature Technique. Journal of Geophysical Research 80. C3. 3655-3661.

Montgomery D.R. (1981). Commercial applications of satellite oceanography. Oceanus 24, 56-64, Woods Hole Oceanographic Institution, Woods Hole, Mass.

Njoku E.G. (1985). Satellite-Derived Sea Surface Temperature Workshop Comparisons. Bulletin of the American Meteorological Society. 66,3,274-281.

Olson D.B., Brown O.B. and Emmerson S.R. (1983). Gulf Stream Frontal Statistics from Florida Straits to Cape Hatteras Derived from Satellite and Historical Data. Journal of Geophysical Research. 88, C8, 4569-4577.

Paulson C.A. and Simpson J.J. (1981). The Temperature Difference Across the Cool Skin of the Ocean. Journal of Geophysical Research. 86. C11 11044-11054.

Pearce A.F., Prata A.J. and Manning C.R. (1989). Comparison of NOAA/AVHRR-2 sea surface temperatures with surface measurements in coastal waters. International Journal of Remote Sensing 10,1, 37-52.

Petersen I. (1987). A snapshot of the Labrador Current inferred from Ice-floe movement in NOAA satellite imagery. Atmosphere-Ocean 25,4, 402-415.

Petrie B., Topliss B.J. and Wright D.G. (1987). Coastal Upwelling and Eddy Development off Nova Scotia. Journal of Geophysical Research 29, C12, 12979-12991.

Prabhakara C., Dalu G., Kunde V.G. (1974). Estimation of Sea Surface Temperature From Remote Sensing in the 11 to 13 um Window Region. Journal of Geophysical Research 79, 33, 5039-5044.

Robinson I.S. (1985). Satellite Oceanography: An Introduction for Oceanographers and Remote Sensing Scientists, Ellis Horwood Series in Marine Science. 455pp. Ellis Horwood:Chichester, England.

Robinson I.S., N.C. Wells and H. Charnock (1984). Review Article: The sea surface thermal boundary layer and its relevance to the measurement of sea surface temperature by airborne and spaceborne radiometers. International Journal of Remote Sensing 5,1,19-45.

Robinson I.S. and Ward N. (1989). Comparison between satellite and ship measurements of sea surface tempearture in the north-east Atlantic Ocean. International Journal of Remote Sensing. 10,4 and 5, 787-799.

Saunders R.W., N.R. Ward, C.F. England and G.E. Hunt (1982). Satellite Observations of Sea Surface Temperature around the British Isles. Bulletin of the American Meteorological Society. 63. 3. 267-272.

Seakem (1989). A Computer Atlas of Satellite Sea Surface Images of the Canadian East Coast: Creation and Instruction. 80pp. Bedford Institute of Oceanography Library Collection.

Simpson J.M. and Bowers D. (1979). Shelf Sea Fronts' Adjustments Revealed by Satellite IR Imagery. Nature 280, 648-651.

Stramma L., P. Cornillon, R.A. Weller, J.F. Price and M.G. Briscoe (1986). Large Diurnal Sea Surface Temperature Variability: Satellite and in situ Measurements. Journal of Physical Oceanography. 16, 827-837.

Strong A.E. and McClain E.P. (1984). Improved Ocean Surface Temperatures from Space - Comparisons with Drifting Buoys. Bulletin of the American Meteorological Society. 65,2, 138 - 142.

Sutcliffe W.H. Jr., K. Drinkwater and B.S. Muir (1977). Correlations of fish catch and environmental factors in the Gulf of Maine. Journal of Fisheries Research Board of Canada.34: 19-30.

Woods J.D. (1983). Satellite monitoring of the ocean for global climate research. Philosophical Transactions of the Royal Society of London. A 309, 337-359.

Warren D. (1989). AVHRR channel-3 noise and methods for its removal. International Journal of Remote Sensing. 10, 4 and 5. 645-651.

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Table 1. Catalogue Names and Area Co-ordinates

Area Names:

	(Full resolution areas)
A	GULF OF MAINE AND MID ATLANTIC BIGHT
B	SCOTIAN SHELF, SLOPE AND GULF STREAM
C	NEWFOUNDLAND BASIN AND GULF STREAM
D	GULF STREAM EXTENSION/RECIRCULATION
E	GULF OF ST. LAWRENCE
F	EAST NEWFOUNDLAND SHELF AND SLOPE
G	NORTH ATLANTIC CURRENT
H	HUDSON STRAIT AND UNGAVA BAY
I	LABRADOR SEA
J	IRMINGER SEA
K	SOUTHERN BAFFIN BAY AND DAVIS STRAIT
L	EAST GREENLAND CURRENT/DENMARK STRAIT
M	SOUTHERN HUDSON BAY AND JAMES BAY
N	NORTHERN HUDSON BAY AND FOXE BASIN

(NOT full resolution data)

O	OVERVIEW DATA: EAST COAST OF CANADA SATELLITE PASS
P	WESTERN NORTH ATLANTIC: GULF OF MAINE TO HUDSON STRAIT

@,#,$,%,* - COMBINED REPORTING IN CANADIAN DATA REPORT SERIES

Area Suffix	Temp	Vis	Centre Long	Centre Lat	Resolution (Deg/Pixel) Long	Resolution (Deg/Pixel) Lat
A@	X	X	-70.28	40.50	0.01315	0.01
B@	X	X	-60.88	40.50	0.01315	0.01
C@	X	X	-47.48	40.50	0.01315	0.01
D@	X	X	-34.08	40.50	0.01315	0.01
E#	X	X	-63.35	50.50	0.01572	0.01
F#	X	X	-51.95	50.50	0.01572	0.01
G#	X	X	-35.92	50.50	0.01572	0.01
H$	X	X	-67.62	60.50	0.02031	0.01
I$	X	X	-58.51	60.50	0.02031	0.01
J$	X	X	-38.20	60.50	0.02031	0.01
K%	X	X	-60.10	67.12	0.02572	0.01
L%	X	X	-33.74	67.12	0.02572	0.01
M%	X	X	-85.70	56.12	0.01793	0.01
N%	X	X	-81.56	66.12	0.02470	0.01
O*	X	O	-55.00	58.00	0.18	0.11
P*	X	X	-55.00	50.50	0.0393	0.025

TABLE 2: NAVIGATION ERROR CODES

CODES	NAVIGATION PROBLEMS
AD	All but the nadir of the WDBII should be moved down
* BAD	something is wrong with the image resulting in a bad navigation
CST	WDBII coastline is wrong
LLU	Lower Left WDBII coastline should move up
LO	the top and bottom on the left side should move in the opposite direction
LRO	Left and right sides should move in the opposite direction
LRU	Lower Right WBDII coastline should move up
LSR	left side should move to the right
O	opposite corners move opposite
PU	opposite corners of the WDBII should both move up
Q	clouds make navigation questionable
RO	top and bottom on the right side should move in the opposite directions.
RSL	right side should move to the left
S	strange
TBO	Top and bottom should move in the opposite direction
TD	top WDBII coastline should move down
TD(V)	variation on top down
UO	the Upper Left and Upper Right should move in opposite directions
ULD	the upper left WBDII coastline should move down
URD	the upper right WDBII coastline should move down
URD(V)	variation on URD
URU	the upper right must move up
< >	horizontal yaw problem: top & bottom should move right & left opposite each other
/6,8	if not a NOA7 then the satellite is specified
> <	left and right sides must move together towards the center line

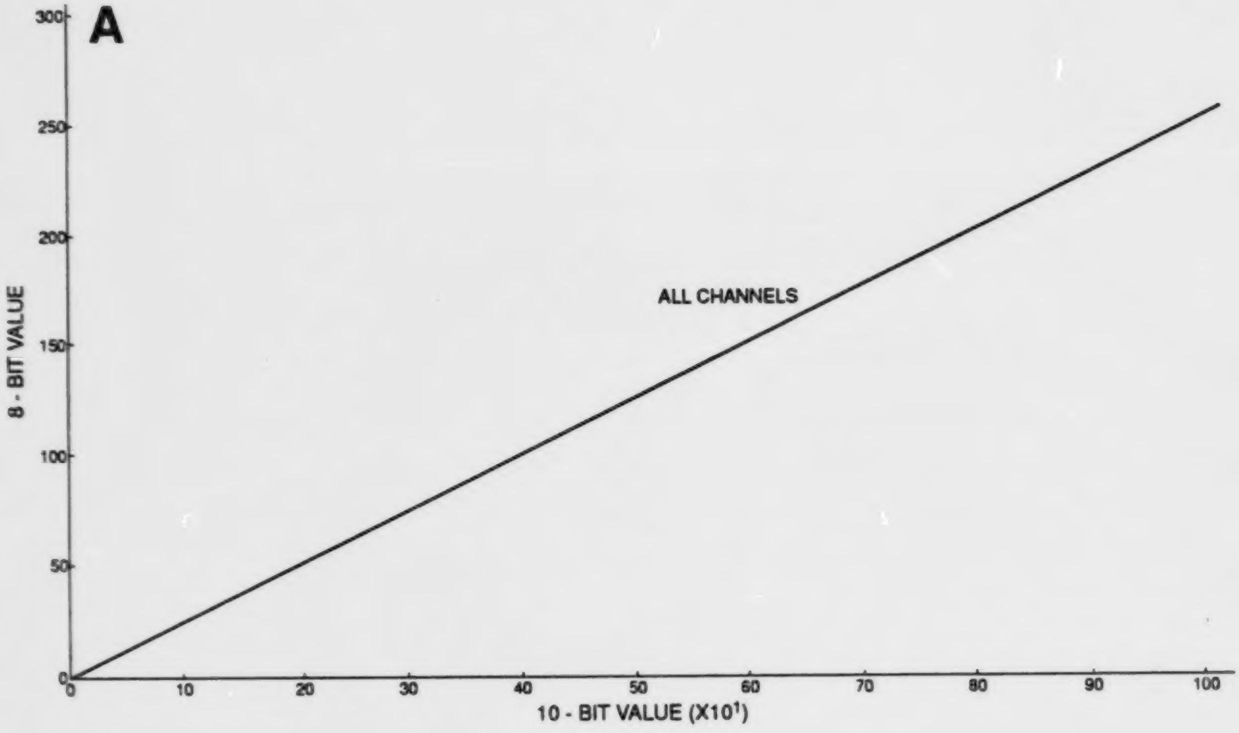


Fig 1 Conversion values for NOAA 7 data (10 to 8 bit)

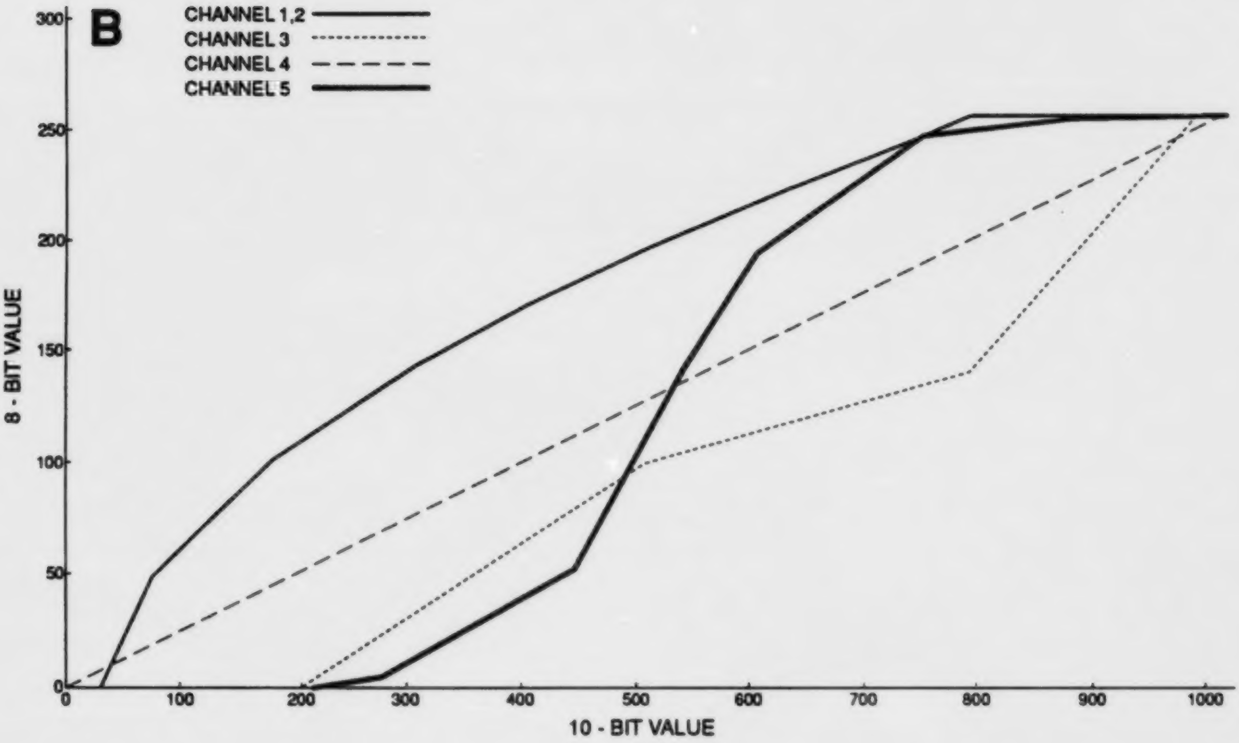


Fig 2 Conversion values for NOAA 9 data (10 to 8 bit)

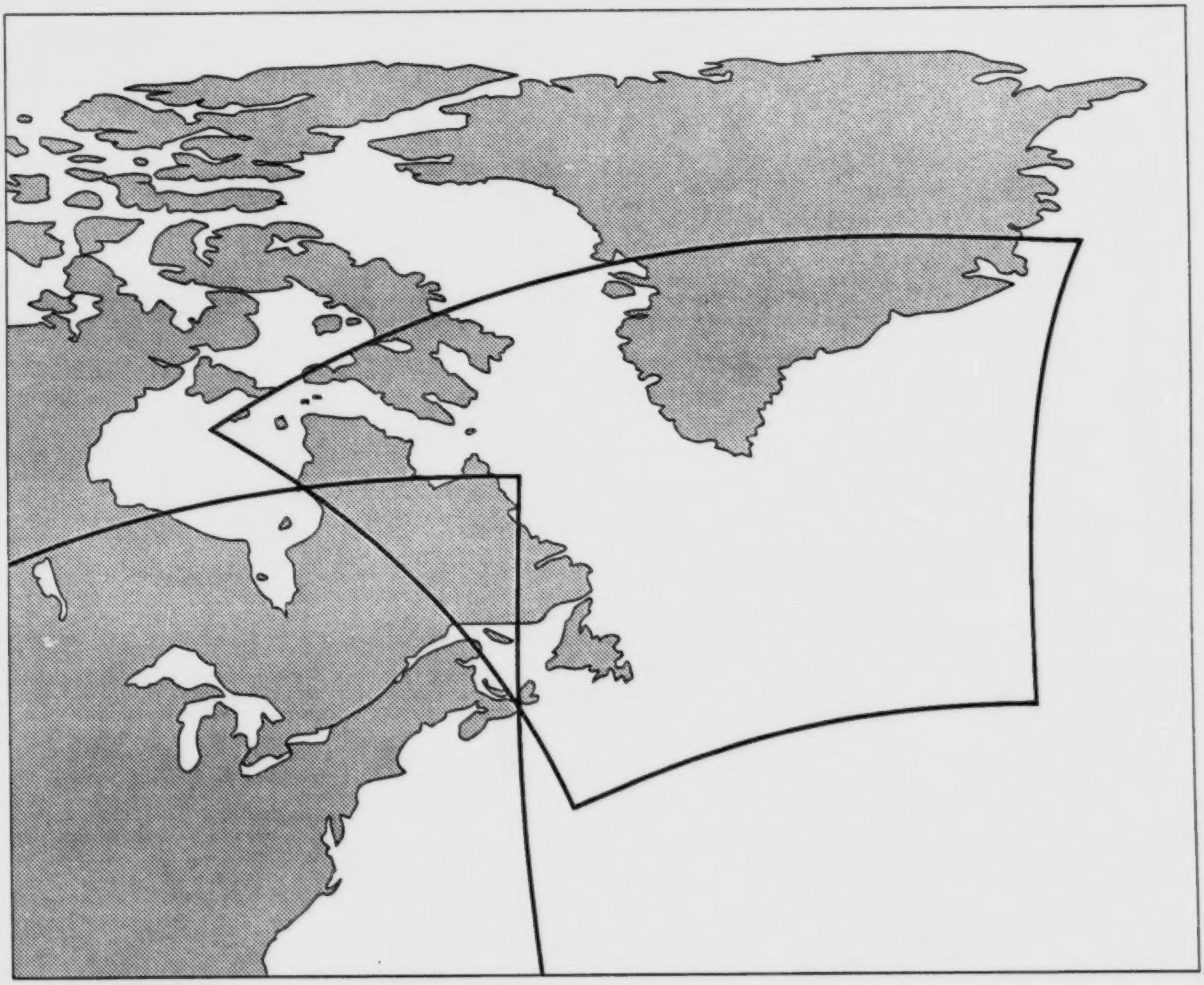
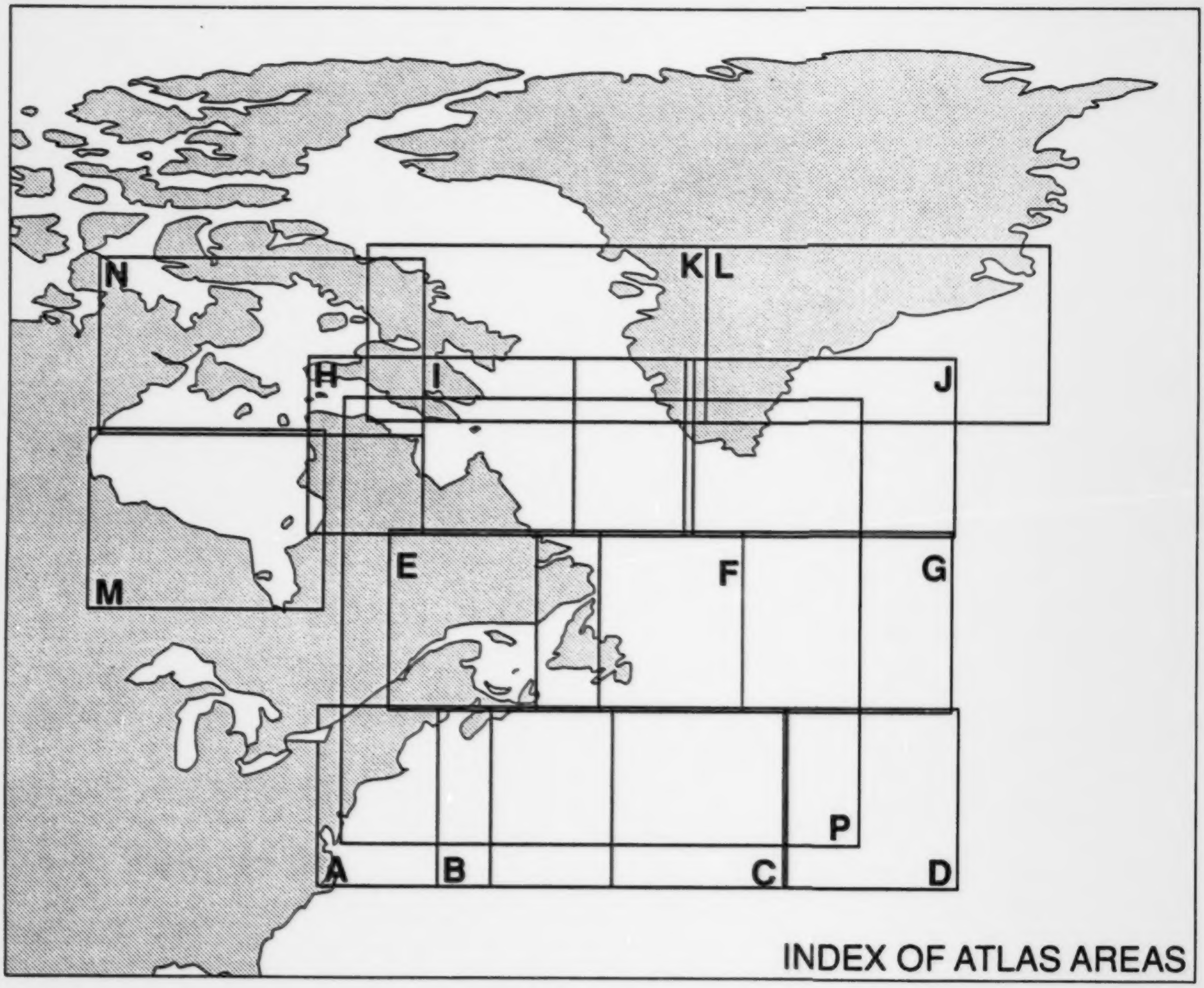


Fig 3 East coast of Canada satellite pass: coverage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INDEX OF ATLAS AREAS

Fig 4 Geographic Atlas Areas

ATLAS PROCESSING RECORD

SEAKEM OCEANOGRAPHY

IA______ ID________________.NO__

TAPE CHECKED OUT OF BIO ARCHIVE:

	Filing Information			Notes	Comments	Done
	No. Time/date	Ac.	Op.			
INGT				NOA___ CH_______ DR_______ BLOCKS_______ LINES______ STD ___	READERR DOC__	
	Problems: Solution:					☐
NAV	No. Time/date	Ac.	Op.	LON_______ LAT______ DIV___ DIST_____ CONF_____ YAW______ SAVE____ DBM___	V Rating:__ NAVERR DOC__	
	Problems: Solution: 2nd image:			bad line:		☐
NAV CHK	No. Time/date	Ac.	OpB.	Nd: V__: L__:	changed__	☐
BATCH SUB	No. Time/date	Ac.	Op.	INF___ SATN___ COMP_________ Q#________ LOG#______ Pr#___ Problem:		☐
BATCH RUN	No. Time/date	Ac.	Op.	InBL________		☐
	Problem:			ELT_______ ENDT_______ LOGOK___ EXCL_______	BAERR DOC___	☐

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
.RMG																

BATCH CHECK

No. Time/date	Ac.	Op.

SYS_________

F#_______ 45__ DISPLAY

NAVC__________SYS______

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DISPLAY IR																
VIS																
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SUN																

☐

BU

No. Time/date	Ac.	Op.

Problems:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
TBUT______																

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DEL .RMG ID________ A__B__C__D__E__F__G__H__I__J__K__L__M__N__O__P__ ☐

FIN Date: Signature: ☐

TAPE CHECKED BACK INTO BIO ARCHIVE:

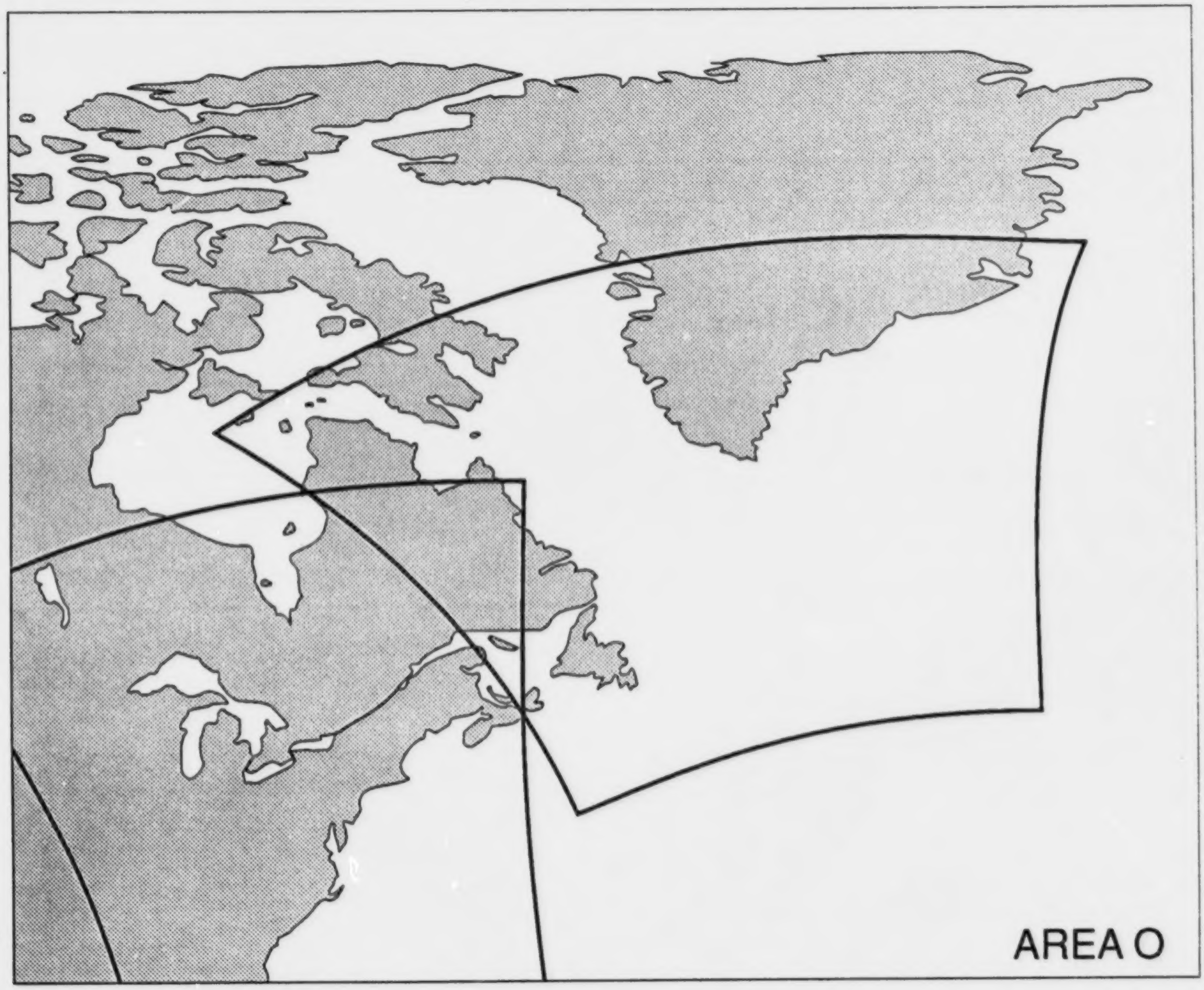

Fig 6 Coverages relative to east coast geography:

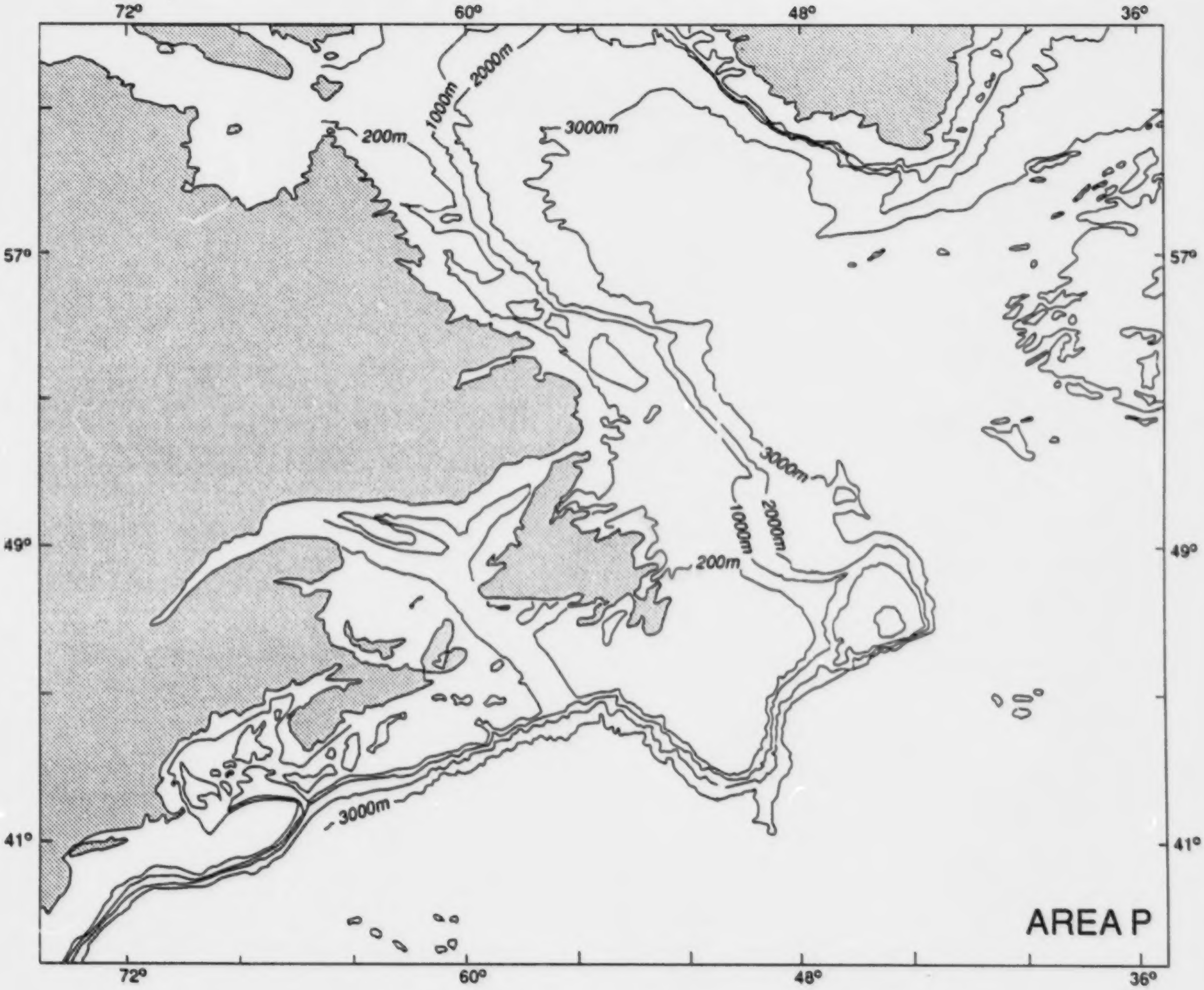
72°
60°
48°
36°
57°
49°
41°
200m
1000m
2000m
3000m
AREA P

Fig 7 Graphics overlay; combined coastline, grid and bathymetry

Appendix 1: Catalogue of Daily SST and Visible Images in Area O

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
001	/84	ND		NO TAPE							
002	/84	ND		NO TAPE							
003	/84	ND		NO TAPE							
004	/84	ND		NO TAPE							
005	/84	ND		NO TAPE							
006	/84	ND		NO TAPE							
007	/84	ND		NO TAPE							
008	/84	ND		NO TAPE							
009	/84	ND		NO TAPE							
010	/84	ND		NO TAPE							
011	/84	ND		NO TAPE							
012	/84	ND		NO TAPE							
013	/84	ND		NO TAPE							
014	/84	ND		NO TAPE							
015	/84	ND		NO TAPE							
016	/84	ND		NO TAPE							
017	/84	ND		NO TAPE							
018	/84	ND		NO TAPE							
019	/84	ND		NO TAPE							
020	/84	ND		NO TAPE							
021	/84	ND		NO TAPE							
022	/84	ND		NO TAPE							
023	/84	ND		NO TAPE							
024	/84	ND		NO TAPE							
025	/84	11		1	0001	7	GD/0	300/E	15	13	
026	/84	12		1	0002	7	GD/2	163/F	16	23	
027	/84	13		1	0003	7	OK/3	72/F	21	19	
028	/84	14		1	0004	7	GD/3	>512/E	21	14	
029	/84	15		1	0005	7	OK/1.5	430/F	21	16	
030.17	/84	16		1	0006	7	OK/1	>512/E	22	19	
030.19	/84	17		1	0007	7	OK/3	190/E	20	9	
031	/84	18		1	0008	7	GD/3	257/H	20	6	
032	/84	19		1	0009	7	GD/2	26/E	20	9	
033	/84	20		1	0010	7	GD/3	57/E	20	15	
034	/84	21		1	0011	7	PR/1.5	17/E	27	13	
035	/84	22		1	0012	7	OK/1	46/F	27	15	
036	/84	23		1	0013	7	OK/1.5	312/E	28	13	
037	/84	24		1	0014	7	GD/3	>512/I	28	15	
038	/84	25		1	0015	7	GD/0	271/I	29	12	
039	/84	26		1	0016	7	OK/3	200/E	19	9	
040	/84	27		1	0017	7	OK/3	10/E	23	10	
041	/84	28		1	0018	7	OK/3	22/E	27	10	
042	/84	29		1	0019	7	OK/2	189/E	27	10	
043	/84	30		1	0020	7	OK/2	93/F	27	15	
044	/84	31		1	0021	7	OK/2	134/F	27	21	
045	/84	ND		NO TAPE							
046	/84	32		1	0022	7	OK/3	200/I	28	19	
047.17	/84	33		1	0023	7	OK/2	54/I	27	15	
047.19	/84	34		1	0024	7	GD/3	49/E	26	33	
048	/84	35		1	0025	7	OK/3	50/E	29	36	
049	/84	36		1	0027	7	PR/3	0/E	27	17	
050	/84	37		1	0026	7	PR/3	122/E	27	13	
051	/84	38		1	0028	7	OK/3	155/H	27	13	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
052	/84	39		1	0029	7	OK/3	122/F	27	10	
053	/84	40		1	0030	7	OK/1.5	79/K	28	12	
054	/84	41		1	0031	7	GD/3	243/I	28	15	
055	/84	42		1	0032	7	GD/3	257/J	27	15	
056	/84	43		1	0033	7	PR/1	209/B	26	18	
057	/84	44		1	0034	7	GD/3	35/H	26	15	
058	/84	45		1	0035	7	GD/3	65/H	27	14	
059	/84	46		1	0036	7	OK/1	134/E	27	6	
060	/84	47		1	0037	7	OK/1.5	>512/NN	27	17	
061	/84	48		1	0038	7	PR/3	10/E	28	12	
062	/84	49		1	0039	7	PR/1.5	244/I	28	20	
063	/84	50		1	0040	7	GD/3	95/K	27	21	
064	/84	ND		NO TAPE							
065	/84	51		1	0041	7	GD/3	0/E	26	10	
066	/84	52		1	0042	7	OK/1.5	215/H	27	7	
067	/84	53		1	0043	7	PR/3	90/F	27	11	
068	/84	54		1	0044	7	GD/1	164/F	27	11	
069	/84	55		1	0045	7	GD/1.5	342/F	28	16	
070	/84	56		1	0046	7	GD/2	296/E	28	21	
071	/84	57		1	0047	7	OK/1.5	>512/F	28	22	
072	/84	58		1	0048	7	OK/3	0/E	26	22	
073	/84	59		1	0049	7	GD/2	0/E	27	13	
074	/84	60		1	0050	7	OK/3	114/E	27	16	
075	/84	61		1	0051	7	OK/3	198/F	27	16	
076	/84	62		1	0052	7	OK/3	29/H	27	24	
077	/84	63		1	0053	7	GD/1	>512/F	28	21	
078	/84	64		1	0054	7	GD/2	470/E	28	22	
079.17	/84	65		1	0056	7	OK/2	304/E	25	12	
079.19	/84	66		1	0055	7	OK/3	50/E	21	20	
080	/84	67		1	0057	7	OK/3	400/E	26	27	
081	/84	68		1	0058	7	GD/3	120/E	26	26	
082	/84	69		1	0059	7	GD/1	100/E	12	55	
083	/84	70		1	0060	7	OK/3	0/F	27	25	
084	/84	71		1	0061	7	PR/2	70/F	28	21	
085	/84	ND		NO TAPE							
086	/84	72		1	0062	7	PR/3	490/F	28	22	
087	/84	73		1	0063	7	GD/2	150/K	29	26	
088	/84	ND		NO TAPE							
089	/84	74		1	0064	7	GD/3	0/E	26	24	
090	/84	75		1	0065	7	OK/1.5	360/E	27	18	
091	/84	76		1	0066	7	GD/2	300/E	27	24	
092	/84	77		1	0067	7	OK/3	0/F	28	22	
093	/84	78		1	0068	7	GD/3	219/F	28	26	
094	/84	79		1	0069	7	GD/3	461/F	28	24	
095	/84	80		1	0070	7	OK/2	203/I	29	29	
096	/84	81		1	0071	7	GD/2	297/H	24	25	
097	/84	ND		NO TAPE							
098	/84	ND		NO TAPE							
099	/84	ND		NO TAPE							
100	/84	ND		NO TAPE							
101	/84	82		1	0072	7	OK/1	240/E	28	40	
102	/84	83		1	0073	7	GD/1	>512/F	28	29	
103	/84	ND		NO TAPE							
104	/84	ND		NO TAPE							

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual
105	/84	ND		NO TAPE							
106	/84	ND		NO TAPE							
107	/84	84		1	0074	7	GD/1.5	0/F	27	35	
108	/84	85		1	0075	7	GD/3	167/H	28	29	
109	/84	86		1	0076	7	OK/3	54/F	28	31	
110	/84	87		1	0077	7	GD/2	357/F	28	34	
111	/84	88		1	0078	7	GD/3	214/K	29	35	
112	/84	89		1	0079	7	GD/3	176/E	23	38	
113	/84	90		1	0080	7	0/0	0/E	25	37	
114	/84	91		1	0081	7	GD/3	76/E	27	36	
115	/84	92		1	0082	7	GD/3	0/E	27	37	
116.18	/84	93		1	0083	7	GD/1.5	0/E	28	38	
116.20	/84	94		1	0084	7	GD/3	0/A	18	70	
117.18	/84	95		1	0085	7	GD/2	172/F	28	39	
117.19	/84	96		1	0086	7	GD/3	57/A	19	74	
118	/84	97		1	0087	7	GD/1.5	341/F	28	43	
119	/84	98		1	0088	7	GD/1.5	>512/F	17	62	
120	/84	ND		NO TAPE							
121	/84	99		1	0089	7	GD/2	50/E	24	30	
122	/84	100		1	0090	7	GD/2	186/E	27	39	
123	/84	101		1	0091	7	GD/1.5	36/E	27	35	
124	/84	102		1	0092	7	GD/2	0/F	28	37	
125	/84	103		1	0093	7	GD/1.5	102/F	28	35	
126.18	/84	104		1	0094	7	GD/2	0/K	28	36	
126.19	/84	105		1	0095	7	GD/1.5	51/A	20	58	
127	/84	106		1	0096	7	GD/3	0/E	29	36	
128	/84	107		1	0097	7	GD/2	0/E	21	46	
129	/84	108		1	0098	7	GD/2	110/E	22	47	
130	/84	109		1	0099	7	GD/3	0/H	27	37	
131	/84	110		1	0100	7	GD/3	155/E	27	35	
132.11	/84	111		1	0101	8	OK/1	76/F	20	84	
132.18	/84	112		1	0102	7	GD/3	22/F	25	49	
133	/84	113		1	0103	7	GD/3	39/F	28	47	
134	/84	114		1	0104	7	GD/3	416/F	28	41	
135	/84	115		1	0105	7	GD/3	248/K	27	50	
136	/84	116		1	0106	7	PR/2	>512/F	23	51	
137	/84	117		1	0107	7	GD/3	0/B	25	43	
138	/84	118		1	0108	7	GD/2	0/E	12	52	
139	/84	119		1	0109	7	GD/3	122/E	21	53	
140	/84	120		1	0110	7	GD/1	0/E	15	62	
141	/84	121		1	0111	7	GD/1	0/F	18	57	
142	/84	122		1	0112	7	GD/2	428/I	28	43	
143	/84	123		1	0113	7	GD/3	417/I	29	47	
144	/84	124		1	0114	7	GD/3	121/K	29	42	
145	/84	125		1	0115	7	GD/2	10/E	21	56	
146	/84	126		1	0116	7	OK/3	20/E	27	41	
147	/84	ND		NO TAPE							
148	/84	127		1	0117	7	GD/2	47/F	13	76	
149	/84	128		1	0118	7	GD/1.5	15/F	28	41	
150	/84	129		1	0119	7	GD/2	247/F	28	46	
151	/84	130		1	0120	7	GD/2	347/I	28	49	
152	/84	131		1	0121	7	OK/2	162/I	29	48	
153	/84	132		1	0122	7	OK/3	0/E	19	53	
154	/84	133		1	0123	7	GD/3	0/H	21	44	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
155	/84	134		1	0124	7	GD/3	O/H	26	33	
156	/84	135		1	0125	7	OK/3	81/H	26	50	
157	/84	136		1	0126	7	OK/3	0/H	26	65	
158	/84	137		1	0127	7	OK/2	>512/E	26	63	
159	/84	138		1	0128	7	OK/3	>512/F	25	55	
160.17	/84	139		1	0129	7	OK/3	169/I	22	49	
160.19	/84	140		1	0130	7	GD/2	0/E	15	46	
161	/84	141		1	0131	7	GD/2	0/E	30	59	
162.1	2/84	142		1	0132	8	PR/3	0/E	22	81	
162.1	9/84	143		1	0133	7	PR/3	26/E	20	47	
162.2	2/84	144		1	0134	8	PR/3	49/E	25	73	
163	/84	145		1	0135	7	OK/3	78/E	26	60	
164.08	/84	146		1	0136	7	PR/2	0/E	25	41	
164.18/	84	147		1	0137	7	GD/3	0/E	17	66	
165	/84	148		1	0138	7	OK/3	28/F	26	52	
166	/84	149		1	0139	7	OK/1.5	204/F	26	52	
167	/84	150		1	0140	7	OK/3	>512/E	25	52	
168.17	/84	151		1	0141	7	PR/2	135/K	23	50	
168.19	/84	152		1	0142	7	OK/3	0/E	28	65	
169.1	7/84	153		1	0143	7	GD/3	0/K	21	51	
169.19/84		154		1	0144	7	PR/3	0/E	30	58	
170	/84	155		1	0145	7	PR/3	0/H	21	49	
171	/84	156		1	0146	7	PR/3	275/E	26	60	
172	/84	157		1	0147	7	OK/3	0/F	26	68	
173	/84	158		1	0148	7	OK/3	66/F	26	66	
17418	/84	159		1	0149	7	OK/3	224/E	26	70	
174.20	/84	160		1	0150	7	PR/3	0/A	24	67	
175	/84	161		1	0151	7	OK/3	?/F	25	65	
176.17	/84	162		1	0152	7	GD/1	?/F	7	77	
176.19	/84	163		1	0153	7	GD/3	167/E	19	69	
177.17	/84	164		1	0154	7	PR/3	0/I	21	71	
177.19	/84	165		1	0155	7	PR/3	?/?	27	73	
177.22	/84	166		1	0156	6	PR/3	0/F	24	80	
178.07	/84	167		1	0157	7	OK/1	201/F	20	66	
178.12	/84	168		1	0158	6	OK/3	86/I	23	82	
179.07	/84	169		1	0159	7	PR/2	?/F	18	67	
179.18	/84	170		1	0160	7	OK/3	29/E	26	63	
180	/84	171		1	0161	7	PR/3	39/E	25	72	
181	/84	172		1	0162	7	OK/3	39/F	26	68	
182	/84	173		1	0163	7	PR/3	370/F	25	56	
183.18	/84	174		1	0164	7	PR/3	403/F	24	53	
183.19	/84	175		1	0165	7	OK/3	203/E	25	71	
184	/84	176		1	0166	7	OK/3	0/E	26	77	
185	/84	177		1	0167	7	OK/3	0/A	27	71	
186	/84	178		1	0168	6	OK/3	201/E	23	86	
187	/84	179		1	0169	7	OK/2	0/E	26	65	
188	/84	180		1	0170	7	OK/3	0/E	26	74	
189	/84	181		1	0171	7	OK/3	0/F	26	79	
190	/84	182		1	0172	7	PR/3	130/F	26	75	
191	/84	183		1	0173	7	OK/2	399/F	25	61	
192	/84	184		1	0174	7	OK/1.5	>512/E	24	68	
193	/84	185		1	0175	7	OK/1.5	72/I	18	77	
194	/84	186		1	0176	6	OK/3	93/F	25	76	
195	/84	187		1	0177	6	GD/3	0/E	19	78	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
196	/84	188		1	0178	7	OK/3	0/E	26	78	
197	/84	189		1	0179	7	OK/1.5	0/F	26	71	
198	/84	190		1	0180	7	OK/2	198/F	26	64	
199	/84	191		1	0181	7	OK/3	>512/E	24	66	
200	/84	192		1	0182	7	OK/3	>512/E	24	69	
201	/84	193		1	0183	7	OK/3	0/E	27	71	
202.07	/84	194		1	0186	7	GD/3	385/F	19	78	
202.19	/84	195		1	0185	7	OK/1.5	0/E	26	77	
202.22	/84	196		1	0184	7	OK/2	0/E	25	84	
203.07	/84	197		1	0187	7	GD/1.5	350/F	19	87	
203.19	/84	198		1	0188	7	GD/3	0/E	26	75	
204.11	/84	199		1	0190	6	GD/3	0/E	21	87	
204.18	/84	200		1	0189	7	OK/3	0/E	26	67	
205	/84	201		1	0191	7	OK/1.5	7/F	26	63	
206	/84	202		1	0192	7	GD/1	28/F	17	61	
207.12	/84	203		1	0193	6	OK/2	0/A	22	84	
207.18	/84	204		1	0194	7	OK/1.5	361/F	25	61	
207.19	/84	205		1	0195	7	OK/1.5	0/A	25	75	
208	/84	206		1	0196	7	GD/1.5	>512/E	25	70	
209	/84	207		1	0197	7	GD/1.5	74/I	22	74	
210	/84	208		1	0198	7	OK/3	120/B	28	68	
211.12	/84	209		1	0199	6	OK/3	200/E	22	84	
211.19	/84	210		1	0200	7	OK/3	200/E	27	67	
212	/84	211		1	0201	7	PR/2	400/E	26	63	
213.11	/84	212		1	0202	6	OK/1.5	113/F	20	76	
213.18	/84	213		1	0203	7	OK/1.5	0/F	26	62	
214	/84	214		1	0204	7	GD/1.5	267/F	26	58	
215.18	/84	215		1	0205	7	GD/2	326/F	26	59	
215.19/	84	216		1	0206	7	OK/2	400/E	25	73	
216.18	/84	217		1	0207	7	GD/2	400/I	24	62	
216.19	/84	218		1	0208	7	GD/3	120/A	26	74	
217.17	/84	219		1	0209	7	OK/1	200/I	21	56	
217.22	/84	220		1	0210	7	GD/2	0/A	23	74	
218	/84	221		1	0211	7	GD/1.5	0/E	28	64	
219	/84	222		1	0212	7	GD/1.5	60/E	26	73	
220	/84	223		1	0213	7	OK/1.5	0/E	26	65	
221	/84	224		1	0214	7	GD/1.5	0/F	20	70	
222	/84	225		1	0215	6	GD/1	222/F	17	82	
223	/84	226		1	0216	7	GD/2	341/E	26	64	
224.18	/84	227		1	0217	7	GD/2	>512/E	24	70	
224.21	/84	228		1	0218	6	GD/1.5	326/E	24	81	
225	/84	ND		NO TAPE							
226	/84	ND		NO TAPE							
227	/84	229		1	0219	7	GD/1.5	0/E	27	66	
228	/84	230		1	0220	7	GD/1.5	O/E	26	66	
229.11	/84	231		1	0221a	6	GD/1	O/E	20	84	
229.18/	84	232		1	0221b	7	GD/1	50/E	8	81	
230	/84	233		1	0222	7	GD/1.5	70/E	26	72	
231	/84	234		1	0223	7	PR/1.5	350/E	26	72	
232	/84	235		1	0224	6	OK/3	200/E	23	80	
233	/84	236		1	0225	6	OK/2	145/E	21	82	
234	/84	237		1	0226	7	GD/1.5	0/E	28	59	
235	/84	ND		NO TAPE							
236	/84	238		1	0227	7	GD/1.5	54/E	14	76	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
237	/84	239		1	0228	6	OK/1	52/E	22	86	
238	/84	240		1	0229	6	OK/1	320/H	20	83	
239	/84	241		1	0230	7	GD/1.5	280/F	26	66	
240	/84	242		1	0231	7	GD/1	0/E	22	67	
241.17	/84	243		1	0232	7	GD/2	100/I	24	66	
241.19	/84	244		1	0233	7	GD/3	48/A	27	59	
242	/84	245		1	0234	7	GD/3	39/E	28	80	
243	/84	ND		NO TAPE							
244	/84	246		1	0235	7	GD/2	121/E	26	70	
245	/84	247		1	0236	7	GD/2	193/F	26	71	
246	/84	248		1	0237	7	OK/3	100/E	26	69	
247	/84	249		1	0238	7	GD/1.5	>512/F	26	72	
248	/84	250		1	0239	7	OK/3	>512/F	22	55	
249.12	/84	251		1	0240	6	GD/1.5	200/E	23	83	
249.18	/84	252		1	0241	7	GD/1.5	98/K	23	69	
250	/84	253		1	0242	7	GD/1.5	0/I	21	58	
251	/84	254		1	0243	7	GD/1.5	0/E	27	55	
252	/84	255		1	0244	7	GD/2	0/E	25	58	
253	/84	256		1	0245	7	GD/1.5	180/E	26	59	
254	/84	257		1	0246	7	GD/1.5	30/F	26	73	
255.18	/84	258		1	0247	7	GD/1.5	230/F	26	60	
255.20	/84	259		1	0248	7	GD/3	0/A	21	72	
256	/84	260		1	0249	7	GD/3	23/A	22	61	
257	/84	261		1	0250	7	GD/1.5	?/?	22	64	
258	/84	262		1	0251	7	GD/2	0/E	23	61	
259.22	/84	264		1	0252	6	GD/1.5	189/E	21	66	
259.19	/84	263		1	0253	7	OK/1	100/E	23	60	
260	/84	265		1	0254	7	GD/3	300/E	26	57	
261	/84	266		1	0255	7	OK/1	200/F	15	68	
262.11	/84	267		1	0256	6	OK/3	350/E	22	71	
262.18	/84	268		1	0257	7	GD/3	0/F	22	58	
263	/84	269		1	0258	6	OK/2	52/F	19	67	
264.19	/84	270		1	0259	7	GD/3	17/A	22	67	
264.22	/84	271		1	0260	6	OK/1.5	19/EA	22	58	
265	/84	272		1	0261	7	GD/2	0/A	22	64	
266	/84	ND		NO TAPE							
267	/84	ND		NO TAPE							
268	/84	273		1	0262	7	OK/3	100/E	23	45	
269	/84	274		1	0264	7	OK/1.5	150/E	26	54	
270	/84	275		1	0265	7	OK/1.5	50/F	26	45	
271	/84	276		1	0266	7	GD/1	277/F	26	44	
272.11	/84	277		1	0267	6	PR/2	97/F	19	61	
272.99	/84	ND			0268	7	BAD	TAPE			
273	/84	278		1	0269	7	OK/1.5	174/I	24	50	
274.19/84		279		1	0263	7	OK/1	70/E	22	60	
274.21/84		280		1	0270	6	OK/3	204/F	24	51	
275	/84	281		1	0271	7	GD/2	0/F	23	59	
276	/84	282		1	0272	7	GD/3	196/E	26	47	
277	/84	283		1	0273	7	GD/3	161/-	19	61	
278	/84	284		1	0274	7	GD/2	238/A	20	58	
279	/84	285		1	0275	7	GD/1	202/F	22	46	
280	/84	286		1	0276	7	OK/3	12/A	21	62	
281	/84	287		1	0277	7	GD/1.5	281/A	22	48	
282	/84	288		1	0278	7	GD/3	0/I	20	39	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
283	/84	289		1	0279	7	GD/3	0/E	23	50	
284.19	/84	290		1	0280	7	OK/3	261/E	26	58	
284.??	/84	ND			0281	BAD	TAPE				
285	/84	291		1	0282	7	OK/3	336/B	26	57	
286	/84	292		1	0283	7	GD/3	391/E	26	53	
287	/84	ND		NO TAPE							
288	/84	ND		NO TAPE							
289	/84	293		1	0285	7	GD/3	22/E	22	72	
290.17	/84	294		1	0286	7	OK/2	>512/?	20	53	
290.19	/84	295		1	0287	7	PR/3	0/E	22	79	
291	/84	296		1	0288	7	OK/3	17/E	23	81	
292.11	/84	297		1	0289	7	PR/3	0/E	20	74	
292.19	/84	298		1	0290	7	PR/3	100/E	26	56	
293	/84	ND			0291	7	BAD	TAPE			
294	/84	299		1	0292	7	GD/1	0/F	14	64	
295	/84	300		1	0293	7	OK/3	228/F	26	41	
296	/84	301		1	0294	7	GD/1.5	>512/?	21	50	
297	/84	302		1	0295	7	PR/2	250/I	24	32	
298	/84	303		1	0296	7	GD/3	0/E	22	45	
299	/84	304		1	0297	7	OK/3	260/E	23	48	
300	/84	305		1	0298	7	OK/2	0/E	21	27	
301	/84	306		1	0299	7	PR/2	0/E	25	35	
302	/84	307		1	0300	7	OK/3	55/A	20	54	
303	/84	308		1	0301	7	OK/1	229/F	26	40	
304.08	/84	309		1	0302	7	OK/2	23/F	24	30	
304.11	/84	310		1	0303	6	OK/2	0/E	23	47	
304.20	/84	311		1	0304	7	GD/2	84/A	21	61	
305.08	/84	312		1	0305	7	OK/3	0/F	23	42	
305.11	/84	313		1	0306	6	PR/2	0/F	19	64	
305.18	/84	314		1	0307	7	PR/3	240/F	23	41	
305.19	/84	315		1	0308	7	GD/3	0/A	22	52	
306.99	/84	ND			0309	BAD	TAPE				
306.17	/84	316		1	0310	7	OK/2	35/K	22	32	
306.19	/84	317		1	0311	7	GD/1.5	0/A	17	77	
307	/84	ND		NO TAPE							
308	/84	318		1	0312	7	PR/3	12/A	25	24	
309	/84	319		1	0313	7	PR/3	0/E	25	35	
310	/84	320		1	0314	7	PR/3	157/H	25	31	
311	/84	321		1	0315	7	PR/3	189/F	26	38	
312	/84	322		1	0316	7	OK/3	0/A?	21	40	
313	/84	323		1	0317	7	OK/3	0/E	22	38	
314	/84	324		1	0318	7	OK/3	0/A	22	41	
315	/84	325		1	0319	7	OK/2	170/B	23	39	
316	/84	ND			0320	BAD	TAPE				
317	/84	326		1	0321	7	PR/3	0/F	25	34	
318	/84	ND			0322	BAD	TAPE				
319	/84	ND		NO TAPE							
320	/84	327		1	0323	7	OK/1.5	0/M	21	40	
321	/84	328		1	0324	7	PR/3	316/A	21	38	
322	/84	329		1	0325	7	?/1	>512/F	22	25	
323	/84	330		1	0326	7	OK/1.5	0/A	22	30	
324	/84	331		1	0327	7	OK/2	0/A	23	23	
325	/84	332		1	0328	7	PR/3	31/E	25	12	
326	/84	333		1	0329	7	PR/3	35/F	26	21	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
327	/84	334		1	0330	7	OK/3	192/F	24	27	
328	/84	335		1	0331	7	OK/3	0/F	21	33	
329	/84	336		1	0332	7	PR/3	0/A	21	45	
330	/84	337		1	0333	7	GD/2	0/A	22	39	
331	/84	338		1	0334	7	OK/2	122/A	23	48	
332	/84	339		1	0335	7	OK/3	463/F	23	44	
333	/84	340		1	0336	7	PR/3	238/E	26	37	
334	/84	341		1	0337	7	OK/1.5	184/?	20	41	
335	/84	342		1	0338	7	GD/1.5	63/A	21	43	
336	/84	ND		NO TAPE							
337	/84	343		1	0339	7	PR/1.5	298/I	23	18	
337	/84	344		1	0340	6	PR/3	58/A	20	30	
338	/84	345		1	0341	7	OK/1.5	0/A	22	33	
339	/84	346		1	0342	7	GD/2	25/A	23	29	
340	/84	ND		NO TAPE							
341	/84	ND		NO TAPE							
342	/84	ND		NO TAPE							
343	/84	347		1	0343	7	GD/3	83/A	21	46	
344.20	/84	348		1	0344	7	OK/3	60/A	21	42	
344.22	/84	349		1	0345	6	OK/3	0/F	25	24	
345	/84	350		1	0346	7	GD/3	>512/?	25	24	
346	/84	351		1	0347	7	GD/3	18/E	22	27	
347	/84	ND			0348	BAD	TAPE				
348	/84	352		1	0349	7	GD/3	>512/?	23	29	
349	/84	353		1	0350	7	OK/3	58/E	26	16	
350	/84	ND			0351	BAD	TAPE				
351	/84	ND			0352	BAD	TAPE				
352	/84	354		1	0353	7	GD/3	58/A	21	45	
353.08	/84	355		1	0354	7	0/1	0/E	23	22	
353.18	/84	356		1	0355	7	GD/3	>512/?	25	19	
354	/84	357		1	0356	7	GD/3	>512/?	22	32	
355	/84	ND			0357	BAD	TAPE				
356	/84	ND			0358	BAD	TAPE				
357	/84	358		1	0359	7	0/1.5	?/?	24	16	
358.18	/84	359		1	0360	7	GD/3	98/E	26	18	
358.21	/84	360		1	0361	7	PR/2	>512/E	23	16	
359	/84	361		1	0362	7	GD/3	224/H	26	23	
360	/84	ND			0363	BAD	TAPE				
361.18	/84	362		1	0364	7	GD/3	>512/?	24	11	
361.19	/84	363		1	0365	7	GD/3	0/A	22	32	
362.18	/84	364		1	0366	7	GD/3	92/K	23	11	
362.19	/84	365		1	0367	7	GD/3	0/A	22	22	
363.17	/84	366		1	0368	9	GD/3	76/B	27	6	
363.19	/84	367		1	0369	7	GD/2	90/E	23	21	
364	/84	368		1	0370	9	GD/2	198/A?	20	36	
365.18	/84	369		1	0371	9	GD/2	74/?	20	38	
365.22	/84	370		1	0372	6	OK/3	20/F	25	16	
366.12	/84	371		1	0373	6	OK/3	0/E	22	14	
366.17	/84	372		1	0374	9	GD/2	91/F	27	13	

Sea Surface Temperature Atlas Catalogue Area O 1985

JUL day	YR	IR no.	VIS no	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
001	/85	373		1	0375	7	OK/3	72/F	26	19	
002	/85	374		1	0376	7	OK/3	?/?	26	23	
003	/85	375		1	0377	7	GD/3	?/?	25	16	
004	/85	376		1	0378	7	GD/3	?/?	23	16	
005	/85	377		1	0379	7	OK/3	30/E	23	21	
006	/85	378		1	0380	7	GD/3	5/B	23	24	
007	/85	379		1	0381	7	GD/3	174/B	26	15	
008	/85	ND		NO TAPE							
009	/85	380		1	0382	9	GD/3	0/F	26	15	
010	/85	381		1	0383	9	GD/3	225/F	26	17	
011	/85	382		1	0384	9	GD/3	?/?	26	17	
012	/85	383		1	0385	9	GD/3	?/?	24	23	
013	/85	384		1	0386	9	GD/3	0/A	22	22	
014	/85	ND			0387	BAD	TAPE				
015	/85	385		1	0388	9	GD/2	?/?	23	82	
016	/85	386		1	0389	9	GD/3	?/?	26	9	
017	/85	387		1	0390	9	GD/3	130/E	26	11	
018	/85	388		1	0391	9	GD/3	54/F	26	16	
019	/85	389		1	0392	9	OK/3	145/F	26	15	
020	/85	1		2	0393	9	OK/1.5	?/?	21	19	
021	/85		2	2	0394	9	GD/3	88/A	22	7	
022	/85	3		2	0395	9	GD/2	?/?	23	17	
023	/85	4		2	0396	9	OK/3	0/K	21	16	
024	/85	5		2	0397	9	GD/2	40/E	23	18	
025	/85	ND		0398	BAD	TAPE					
026	/85	6		2	0399	9	OK/2	0/E	26	8	
027	/85	7		2	0400	9	GD/3	0/F	26	8	
028	/85	8		2	0401	9	GD/2	329/F	26	15	
029	/85	9		2	0402	9	OK/3	265/F	26	14	
030	/85	10		2	0403	9	GD/3	14/A	14	32	
031.16	/85	11		2	0404	9	GD/3	?/?	23	12	
031.18	/85	12		2	0405	9	GD/1.5	10/E	22	16	
032	/85	13		2	0406	9	GD/1.5	50/K	22	13	
033	/85	14		2	0407	9	GD/1	28/J	17	14	
034	/85	ND			0408	BAD	TAPE				
035	/85	15		2	0409	9	OK/3	50/E	26	7	
036	/85	16		2	0410	9	OK/3	0/F	26	9	
037	/85	17		2	0411	9	OK/3	0/F	26	5	
038	/85	18		2	0412	9	OK/2	163/F	26	12	
039	/85	19		2	0413		GD/3	?/?	26	13	
040	/85	20		2	0414	9	OK/2	164/A	22	18	
041	/85	21		2	0415	9	OK/1.5	100/K	23	13	
042	/85	22		2	0416	9	GD/2	0/E	22	29	
043	/85	23		2	0417	9	OK/2	0/E	23	21	
044	/85	24		2	0418	9	OK/1.5	0/H	26	8	
045	/85	25		2	0419	9	OK/2	?/?	26	16	
046	/85	26		2	0420	9	GD/2	?/?	26	14	
047	/85	27		2	0421	9	GD/2	?/?	26	17	
048	/85	28		2	0422	9	PR/3	370/H	26	23	
049	/85	29		2	0423	9	PR/3	?/?	25	23	
050	/85	30		2	0424	9	OK/3	200/I	23	19	
051	/85	31		2	0425	9	OK/3	0/E	23	13	
052	/85	32		2	0426	9	OK/3	0/E	23	15	

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053	/85	33		2	0427	9	OK/3	0/H	24	18	
054	/85	ND			0428	BAD	TAPE				
055	/85	34		2	0429	9	OK/1.5	77/E	26	13	
056	/85	35		2	0430	9	OK/3	32/E	26	12	
057	/85	ND			0431	BAD	TAPE				
058	/85	36		2	0432	9	OK/1.5	?/?	25	12	
059	/85	37		2	0433	9	OK/3	23/E	23	21	
060	/85	38		2	0434	9	0K/3	?/?	22	14	
061	/85	39		2	0435	9	GD/2	67/I	20	11	
062	/85	40		2	0436	9	OK/3	112/E	24	22	
063	/85	41		2	0437	9	OK/3	125/E	26	8	
064	/85	42		2	0438	9	OK/1	>512/F	15	18	
065	/85	43		2	0439	9	PR/3	0/F	26	8	
066	/85	44		2	0440	9	OK/3	222/F	26	13	
067	/85	45		2	0441	9	OK/3	<512/F	26	14	
068	/85	46		2	0442	9	OK/2	59/A	23	34	
069	/85	47		2	0443	9	OK/2	?/?	23	19	
070.16	/85	48		2	0444	9	OK/3	200/J	21	23	
070.18	/85	49		2	0445	9	0K/3	73/A	23	30	
071	/85	50		2	0446	9	OK/3	>512/F	24	22	
072	/85	51		2	0447	9	GD/3	260/E	26	19	
073	/85	52		2	0448	9	GD/1	180/F	26	18	
074	/85	53		2	0449	9	OK/3	>512/A	26	15	
075	/85	ND		NO TAPE							
076	/85	54		2	0450	9	OK/3	380/F	26	19	
077	/85	55		2	0451	9	PR/3	?/?	26	15	
078.16	/85	56		2	0452	9	GD/3	>512/F	23	15	
078.18	/85	57		2	0453	9	GD/3	69/A	23	31	
079	/85	58		2	0454	9	GD/3	44/K	22	15	
080	/85	59		2	0455	9	OK/3	57/E	24	24	
081	/85	60		2	0456	9	GD/3	117/A	24	23	
082	/85	61		2	0457	9	OK/3	120/E	24	24	
083	/85	62		2	0458	9	OK/3	150/F	26	22	
084	/85	63		2	0459	9	OK/3	134/F	26	18	
085.17	/85	64		2	0461	9	OK/3	235/F	26	16	
085.18	/85	65		2	0460	9	GD/2	0/A	22	38	
086	/85	66		2	0462	9	GD/3	23/A	23	35	
087.16	/85	67		2	0463	9	GD/1	306/I	25	20	
087.18	/85	68		2	0464	9	GD/1.5	187/A	23	34	
088.06	/85	69		2	0465	9	GD/1.5	0/E	22	18	
088.18	/85	70		2	0466	9	OK/2	32/A	23	32	
089	/85	71		2	0467	9	GD/1	25/I	22	20	
090	/85	72		2	0468	9	GD/3	58/E	24	29	
091	/85	73		2	0469	9	GD/3	359/E	26	12	
092	/85	74		2	0470	9	OK/3	105/F	26	15	
093	/85	75		2	0471	9	GD/3	63/F	26	17	
094.17	/85	76		2	0472	9	OK/3	145/F	26	23	
094.18	/85	77		2	0473	9	GD/3	0/<E	22	40	
095	/85	78		2	0474	9	GD/2	400/F	26	30	
096	/85	79		2	0475	9	GD/3	?/?	26	24	
097	/85	80		2	0476	9	GD/3	0/A	23	29	
098	/85	81		2	0477	9	OK/1.5	103/K	22	27	
099	/85	82		2	0478	9	GD/3	170/E	24	22	
100	/85	83		2	0479	9	GD/3	0/A	24	25	

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101	/85	84		2	0480	9	GD/3	100/E	26	18	
101	/85	NA			0481	SAME	AS	ABOVE			
102	/85	ND			0482	9	BAD	TAPE			
103	/85	85		2	0483	9	OK/3	73/F	26	21	
104	/85	86		2	0484	9	GD/3	280/F	26	19	
105	/85	87		2	0485	9	GD/1.5	?/?	26	24	
106	/85	88		2	0486	9	GD/2	?/?	25	24	
107	/85	89		2	0487	9	GD/3	85/K	24	31	
108	/85	90		2	0488	9	GD/3	19/E	24	39	
109	/85	ND			0489	BAD	TAPE				
110	/85	91		2	0490	9	GD/3	60/E	26	39	
111	/85	92		2	0491	9	GD/3	54/F	26	39	
112	/85	93		2	0492	9	GD/3	53/F	26	41	
113	/85	94		2	0493	9	GD/2	120/F	26	37	
114	/85	95		2	0494	9	GD/2	?/?	27	37	
115	/85	96		2	0495	9	GD/2	340/E	22	37	
116	/85	97		2	0496	9	GD/3	154/K	24	32	
117	/85	98		2	0497	9	GD/3	0/K	21	23	
118	/85	99		2	0498	9	GD/3	0/E	24	38	
119	/85	ND			0499	BAD	TAPE				
120	/85	100		2	0500	9	GD/3	0/E	26	35	
121	/85	101		2	0501	9	GD/3	68/E	32	15	
122	/85	102		2	0502	9	GD/3	0/F	26	30	
123	/85	103		2	0503	9	OK/1.5	282/F	27	38	
124	/85	104		2	0504	9	GD/3	0/A	14	58	
125	/85	105		2	0505	9	GD/3	184/K	25	35	
126	/85	106		2	0506	9	GD/3	0/E	24	47	
127	/85	107		2	0507	9	GD/3	223/E	24	42	
128	/85	108		2	0508	9	GD/3	?/?	24	38	
129	/85	109		2	0509	9	GD/3	65/E	26	29	
130	/85	110		2	0510	9	GD/3	302/E	26	31	
131	/85	111		2	0511	9	GD/3	42/F	26	38	
132	/85	112		2	0512	9	GD/3	121/F	26	36	
133	/85	113		2	0513	9	GD/3	?/?	26	36	
134	/85	114		2	0514	9	GD/1.5	250/K	25	40	
135.16	/85	115		2	0515	9	GD/2	125/K	23	30	
135.18	/85	116		2	0516	9	GD/3	0/E	24	51	
136	/85	117		2	0517	9	GD/3	51/A	24	43	
137	/85	118		2	0518	9	GD/2	104/E	24	34	
138	/85	119		2	0519	9	GD/1	0/E	8	50	
139	/85	120		2	0520	9	GD/3	0/E	26	49	
140	/85	121		2	0521	9	GD/2	91/F	26	56	
141	/85	122		2	0522	9	GD/1.5	40/F	26	61	
142	/85	123		2	0523	9	GD/1.5	262/F	26	58	
143	/85	124		2	0524	9	GD/3	?/?	26	58	
144	/85	125		2	0525	9	GD/1	170/K	24	49	
145	/85	126		2	0526	9	GD/3	170/K	22	43	
146	/85	127		2	0527	9	GD/3	50/E	24	43	
147	/85	128		2	0528	9	GD/3	90/E	24	49	
148	/85	129		2	0529	9	GD/3	160/F	26	41	
149	/85	130		2	0530	9	OK/3	0/F	26	41	
150	/85	131		2	0531	9	OK/3	0/F	26	39	
151	/85	132		2	0532	9	OK/3	165/F	26	48	
152	/85	133		2	0533	9	OK/2	450/F	25	43	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
153.16	/85	134		2	0534	9	GD/2	260/K	24	41	
153.18	/85	135		2	0535	9	GD/3	10/A	23	47	
154	/85	136		2	0536	9	OK/3	?/?	23	49	
155	/85	137		2	0537	9	GD/3	0/A	24	62	
156	/85	138		2	0538	9	OK/1.5	45/E	24	54	
157	/85	139		2	0539	9	OK/3	210/E	26	46	
158	/85	140		2	0540	9	OK/3	10/E	26	50	
159	/85	141		2	0541	9	OK/3	20/F	26	54	
160	/85	142		2	0542	9	PR/3	120/F	23	47	
161	/85	143		2	0543	9	OK/3	>512/?	26	52	
162	/85	144		2	0544	9	OK/3	313/K	25	58	
163	/85	145		2	0545	9	OK/3	?/?	23	58	
164	/85	146		2	0546	9	OK/3	?/?	23	55	
165	/85	147		2	0547	9	GD/2	150/K	24	45	
166	/85	148		2	0548	9	OK/3	0/E	16	66	
167	/85	149		2	0549	9	OK/3	0/E	26	59	
168	/85	150		2	0550	6	PR/3	170/F	21	49	
169	/85	151		2	0551	9	OK/2	65/F	26	58	
170	/85	152		2	0552	9	OK/1.5	307/E	25	54	
171	/85	153		2	0553	9	PR/3	?/?	24	56	
172	/85	154		2	0554	9	PR/3	?/?	24	57	
173	/85	155		2	0555	9	OK/3	0/A	23	56	
174	/85	156		2	0556	9	OK/3	0/A	24	54	
175	/85	157		2	0557	9	OK/3	94/E	24	61	
176	/85	158		2	0558	9	PR/3	34/E	26	66	
177	/85	159		2	0559	9	OK/3	0/E	26	62	
178	/85	160		2	0560	9	PR/1.5	22/F	26	51	
179	/85	161		2	0561	9	PR/3	118/F	26	58	
180	/85	162		2	0562	9	PR/1.5	364/F	26	54	
181	/85	163		2	0563	9	PR/3	?/?	24	46	
182	/85	164		2	0564	9	PR/2	150/I	23	53	
183	/85	165		2	0565	9	OK/2	0/I	20	61	
184	/85	166		2	0566	9	PR/3	0/E	24	68	
185	/85	167		2	0567	9	PR/3	0/F	26	64	
186	/85	168		2	0568	9	PR/3	31/E	26	62	
187	/85	169		2	0569	9	OK/3	0/F	26	65	
188	/85	170		2	0570	9	PR/1.5	14/F	26	58	
189	/85	171		2	0571	9	PR/3	?/?	26	64	
190	/85	172		2	0572	9	OK/3	0/A	23	71	
191	/85	173		2	0573	9	PR/3	?/?	24	71	
192	/85	174		2	0574	9	PR/2	62/I	22	66	
193	/85	175		2	0575	9	OK/3	53/E	24	64	
194	/85	176		2	0576	9	PR/3	50/E	24	62	
195	/85	177		2	0577	9	PR/3	10/E	26	64	
196	/85	178		2	0578	9	PR/3	162/F	26	68	
197	/85	179		2	0579	9	PR/3	?/?	26	70	
198	/85	180		2	0580	9	OK/3	170/F	26	74	
199	/85	181		2	0581	9	OK/3	?/?	25	68	
200	/85	182		2	0582	9	OK/3	?/?	24	58	
201	/85	183		2	0583	9	OK/3	110/I	22	51	
201	/85	NA			0584	SAME	AS	ABOVE			
202.16	/85	184		2	0585	9	OK/2	90/I	21	49	
202.18	/85	185		2	0586	9	PR/3	90/E	23	67	
203	/85	186		2	0587	9	OK/3	0/E	24	67	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
204	/85	187		2	0588	9	OK/3	90/E	26	64	
205	/85	188		2	0589	9	PR/3	0/E	26	52	
206	/85	189		2	0590	9	PR/3	0/F	26	49	
207	/85	190		2	0591	9	OK/3	63/F	26	57	
208	/85	191		2	0592	9	OK/3	?/?	26	66	
209	/85	192		2	0593	9	PR/3	?/?	22	58	
210	/85	193		2	0594	9	GD/1.5	0/F	20	79	
211	/85	194		2	0595	9	OK/3	89/E	23	66	
212	/85	195		2	0596	9	OK/3	34/E	19	66	
213	/85	ND		NO TAPE							
214	/85	196		2	0597	9	OK/3	42/E	26	55	
215	/85	197		2	0598	9	OK/3	0/F	26	69	
216.17	/85	198		2	0599	9	GD/3	70/F	26	63	
216.18	/85	199		2	0600	9	GD/3	0/A	22	75	
217	/85	200		2	0601	9	GD/3	209/F	26	60	
218	/85	201		2	0602	9	GD/3	?/?	25	64	
219	/85	202		2	0603	9	GD/3	36/E	23	70	
220.16	/85	203		2	0604	9	GD/1.5	68/I	23	63	
220.18	/85	204		2	0605	9	GD/3	?/?	23	69	
221	/85	205		2	0606	9	GD/3	5/E	24	63	
222	/85	206		2	0607	9	GD/1.5	0/E	24	62	
223	/85	207		2	0608	9	GD/3	135/E	26	66	
224	/85	208		2	0609	9	GD/3	156/F	26	69	
225.17	/85	209		2	0610	9	GD/3	79/F	26	66	
225.19	/85	210		2	0611	9	GD/3	17/A	14	86	
226	/85	211		2	0612	9	GD/3	142/F	26	66	
227	/85	212		2	0613	9	GD/3	37/A	15	80	
228	/85	213		2	0614	9	GD/3	174/E	23	68	
229	/85	214		2	0615	9	GD/3	0/A	23	63	
230	/85	215		2	0616	9	GD/3	0/I	21	65	
231	/85	216		2	0617	9	GD/3	0/E	24	73	
232	/85	217		2	0618	9	GD/3	?/?	26	65	
233	/85	218		2	0619	9	OK/3	0/E	26	65	
234	/85	219		2	0620	9	GD/3	0/E	26	77	
235	/85	220		2	0621	9	GD/3	59/E	26	80	
236	/85	221		2	0622	9	GD/3	?/?	26	74	
237	/85	222		2	0623	9	GD/3	?/?	25	68	
238	/85	223		2	0624	9	GD/3	?/?	23	70	
239	/85	224		2	0625	9	GD/3	63/I	22	68	
240	/85	225		2	0626	9	GD/3	70/A	24	70	
241	/85	226		2	0627	9	GD/3	130/E	25	64	
242	/85	227		2	0628	9	GD/3	45/E	26	61	
243	/85	228		2	0629	9	GD/3	28/E	26	54	
244	/85	229		2	0630	9	GD/3	0/E	26	53	
245	/85	230		2	0631	9	GD/3	182/F	26	47	
246	/85	231		2	0632	9	GD/3	?/?	26	58	
247	/85	232		2	0633	9	GD/3	220/I	25	50	
248	/85	233		2	0634	9	GD/2	60/A	24	62	
249	/85	234		2	0635	9	GD/3	0/I	22	56	
250	/85	235		2	0636	9	GD/3	0/E	24	66	
251	/85	236		2	0637	9	GD/3	40/E	26	54	
252	/85	237		2	0638	9	GD/1	>512/E	18	70	
253	/85	ND		NO TAPE							
254	/85	ND		NO TAPE							

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255	/85	ND		NO TAPE							
256	/85	ND		NO TAPE							
257	/85	238		2	0639	9	GD/3	17/E	22	66	
258	/85	239		2	0640	9	GD/3	0/A	24	73	
259	/85	ND		NO TAPE							
260	/85	ND		NO TAPE							
261	/85	240		2	0641	9	GD/3	0/F	26	64	
262.11	/85	241		2	0643	8	GD/1	>512/F	15	80	
262.17	/85	242		2	0642	9	GD/2	75/F	26	61	
263	/85	243		2	0644	9	GD/1.5	0/E	22	63	
264	/85	244		2	0645	9	GD/1.5	193/E	20	70	
265	/85	245		2	0646	9	GD/3	?/?	26	53	
266	/85	246		2	0647	9	GD/2	260/I	24	53	
267	/85	247		2	0648	9	GD/3	9/A	24	70	
268	/85	248		2	0649	9	GD/3	220/E	24	65	
269	/85	249		2	0650	9	GD/3	0/E	24	58	
270	/85	250		2	0651	9	GD/3	38/E	26	43	
271	/85	251		2	0652	9	GD/2	326/E	26	55	
272	/85	252		2	0653	9	GD/2	0/F	26	46	
273	/85	253		2	0654	9	GD/3	69/A	22	55	
274	/85	254		2	0655	9	GD/3	?/?	24	43	
275	/85	255		2	0656	9	GD/3	?/?	25	49	
276	/85	256		2	0657	9	GD/3	0/E	23	51	
277	/85	257		2	0658	9	GD/3	0/I	21	39	
278	/85	258		2	0659	9	GD/1.5	32/E	24	48	
279	/85	259		2	0660	9	GD/0	?/F	18	57	
280	/85	260		2	0661	9	GD/1	43/E	26	39	
281	/85	261		2	0662	9	GD/2	0/F	26	41	
282	/85	262		2	0663	9	GD/3	?/?	26	36	
283	/85	263		2	0664	9	GD/3	247/F	26	31	
284	/85	264		2	0665	9	GD/3	?/?	25	26	
285	/85	265		2	0666	9	GD/2	226/I	24	29	
286	/85	266		2	0667	9	GD/3	54/I	21	30	
287	/85	267		2	0668	9	GD/3	274/A	24	46	
288	/85	ND			0669	BAD	TAPE				
289	/85	268		2	0670	9	GD/2	24/E	26	29	
290	/85	269		2	0671	9	GD/2	16/F	26	39	
291	/85	270		2	0672	9	GD/3	22/F	26	42	
292	/85	271		2	0673	9	GD/3	?/?	25	36	
293	/85	ND		NO TAPE							
294	/85	272		2	0674	9	GD/3	28/E	23	53	
295	/85	273		2	0675	9	GD/3	111/E	23	53	
296.16	/85	274		2	0676A	9	GD/3	44/I	20	40	
296.18	/85	275		2	0676B	9	GD/2	20/A	12	76	
297	/85	276		2	0677	9	GD/3	0/E	24	50	
298	/85	277		2	0678	9	GD/2	269/E	26	32	
299	/85	278		2	0679	9	GD/2	270/F	26	33	
300	/85	279		2	0680	9	GD/2	55/F	26	37	
301	/85	280		2	0681	9	GD/2	22/A	17	48	
302	/85	281		2	0682	9	GD/2	0/A	18	43	
303	/85	282		2	0683	9	GD/2	?/?	25	37	
304	/85	283		2	0684	9	GD/3	21/E	23	51	
305	/85	284		2	0685	9	GD/2	108/M	27	22	
306	/85	285		2	0686	9	GD/3	35/E	24	59	

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307	/85	286		2	0687	9	GD/1	40/E	24	57	
308	/85	287		2	0688	9	GD/2	0/E	26	42	
309	/85	288		2	0689	9	GD/1.5	50/F	26	30	
310	/85	289		2	0690	9	GD/1	74/F	26	29	
311	/85	290		2	0691	9	GD/3	28/A	22	42	
312	/85	291		2	0692	9	GD/3	0/A	23	40	
313	/85	292		2	0693	9	GD/3	95/E	23	36	
314	/85	293		2	0694	9	GD/3	?/?	23	30	
315	/85	294		2	0695	9	GD/3	36/E	23	30	
316	/85	295		2	0696	9	GD/3	20/E	24	28	
317	/85	296		2	0697	9	GD/1.5	77/E	26	14	
318	/85	297		2	0698	9	GD/3	20/E	26	24	
319	/85	298		2	0699	9	GD/3	18/F	26	20	
320	/85	299		2	0700	9	GD/2	160/F	26	23	
321	/85	300		2	0701	9	GD/3	150/A	22	31	
322	/85	301		2	0702	9	GD/3	0/A	23	35	
323	/85	302		2	0703	9	GD/1.5	?/M	17	6	
324	/85	303		2	0704	9	GD/3	0/J	20	21	
325	/85	304		2	0705	9	GD/2	89/E	15	24	
326	/85	305		2	0706	9	GD/3	8/E	26	12	
327	/85	306		2	0707	9	GD/2	20/E	26	17	
328	/85	307		2	0708	9	GD/1.5	27/F	26	20	
329	/85	308		2	0709	9	GD/3	40/F	26	23	
330	/85	309		2	0710	9	GD/2	308/F	26	24	
331	/85	310		2	0711	9	GD/2	?/F	25	22	
332	/85	311		2	0712	9	GD/2	184/I	24	22	
333	/85	312		2	0713	9	GD/2	0/K	22	19	
334	/85	ND		NO TAPE							
335	/85	313		2	0714	9	GD/3	0/E	24	28	
336	/85	314		2	0715	9	GD/3	100/H	26	14	
337	/85	315		2	0716	9	GD/1.5	126/F	26	11	
338	/85	316		2	0717	9	GD/1	233/E	26	16	
339	/85	317		2	0718	9	GD/1.5	188/F	26	25	
340	/85	318		2	0719A	9	GD/1	403/F	14	30	
341	/85	319		2	0719B	9	GD/3	47/A	14	26	
342	/85	320		2	0720	9	GD/2	8/E	23	22	
343	/85	321		2	0721A	9	GD/1	0/K	20	17	
344	/85	322		2	0721B	9	GD/2	260/A	12	43	
345	/85	323		2	0722A	9	GD/2	74/E	12	26	
346	/85	324		2	0722B	9	GD/1	41/E	17	26	
347	/85	325		2	0723	9	GD/3	25/F	26	17	
348	/85	326		2	0724	9	GD/1.5	263/E	26	16	
349	/85	327		2	0725	9	GD/3	386/F	26	21	
350	/85	328		2	0726	9	GD/2	?/?	25	25	
351	/85	329		2	0727	9	GD/2	140/K	18	35	
352	/85	330		2	0728	9	OK/1.5	20/K	22	18	
353	/85	331		2	0729	9	GD/3	55/E	24	10	
354	/85	332		2	0730	9	GD/3	10/E	26	11	
355	/85	333		2	0731	9	GD/1	300/F	15	12	
356	/85	334		2	0732	9	GD/3	135/F	21	11	
357	/85	335		2	0733	9	OK/2	16/F	26	20	
358	/85	336		2	0734	9	GD/3	124/A	23	15	
359	/85	337		2	0735	9	GD/1.5	?/?	26	22	
360	/85	338		2	0736	9	GD/2	?/?	24	17	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
361	/85	339		2	0737	9	GD/1.5	?/?	23	15	
362	/85	340		2	0738	9	GD/2	54/E	24	23	
363	/85	341		2	0739	9	GD/3	77/E	25	14	
364	/85	342		2	0740	9	GD/3	208/H	26	13	
365	/85	343		2	0747	9	OK/3	252/F	26	19	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
001	/86	344		2	0748	9	GD/3	?/?	26	21	
002	/86	345		2	0749	9	GD/1.5	210/F	26	15	
003	/86	346		2	0750	9	OK/1.5	?/?	26	20	
004	/86	347		2	0751	9	GD/3	39/E	23	14	
005	/86	348		2	0752	9	GD/3	?/?	24	11	
006	/86	349		2	0753	9	GD/1	40/I	21	24	
007	/86	350		2	0754	9	GD/3	45/A	24	14	
008	/86	351		2	0755	9	GD/1.5	150/E	22	7	
009	/86	352		2	0756	9	GD/1.5	150/E	26	13	
010	/86	353		2	0757	9	GD/2	10/F	26	21	
011	/86	354		2	0758	9	GD/1.5	355/F	26	14	
012	/86	355		2	0759	9	GD/3	296/F	26	16	
013	/86	356		2	0760	9	GD/3	?/?	26	19	
014	/86	357		2	0761	9	GD/1	135/K	25	19	
015	/86	358		2	0762	9	GD/1	?/?	22	10	
016	/86	359		2	0763	9	GD/2	137/A	24	19	
017	/86	360		2	0764	9	GD/2	27/E	25	24	
018	/86	361		2	0765	9	GD/3	216/E	26	15	
019	/86	362		2	0766	9	OK/3	72/E	26	21	
020	/86	363		2	0767	9	GD/1.5	258/I	26	17	
021	/86	364		2	0768	9	GD/3	?/?	27	12	
022	/86	365		2	0769	9	GD/1.5	?/?	26	18	
023	/86	366		2	0770	9	GD/3	0/E	23	21	
024	/86	367		2	0771	9	GD/1.5	340/J	22	13	
025	/86	368		2	0772	9	GD/1.5	55/A	24	10	
026	/86	369		2	0773	9	GD/1	370/E	24	18	
027	/86	370		2	0774	9	OK/1	?/?	26	14	
028	/86	371		2	0775	9	GD/1	?/?	26	17	
029	/86	372		2	0776	9	GD/1.5	0/F	26	19	
030	/86	373		2	0777	9	GD/3	230/E	26	20	
031	/86	374		2	0778	9	GD/3	?/?	26	20	
032	/86	375		2	0779	9	GD/3	?/?	25	16	
033	/86	376		2	0780	9	GD/3	310/J	24	9	
034	/86	377		2	0781	9	GD/3	0/E	24	13	
035	/86	378		2	0782	9	GD/3	0/E	24	12	
036	/86	379		2	0783	9	GD/1.5	245/E	72	58	
037	/86	380		2	0784	9	OK/3	114/F	26	13	
038	/86	381		2	0785	9	GD/2	101/A	14	36	
039.17	/86	382		2	0786B	9	GD/1	?/A	17	9	
039.17	/86	383		2	0786A	9	GD/1	?/E	19	3	
040	/86	1		3	0787	9	GD/3	283/F	26	22	
041	/86	2		3	0788	9	GD/3	?/?	26	21	
042	/86	3		3	0789	9	GD/1.5	221/J	24	15	
043	/86	4		3	0790	9	GD/1.5	39/J	22	21	
044	/86	5		3	0791	9	GD/3	117/A	23	12	
045	/86	6		3	0792	9	GD/2	45/E	16	20	
046	/86	7		3	0793	9	GD/1.5	240/E	26	9	
047	/86	8		3	0794	9	GD/1.5	48/E	26	10	
048	/86	9		3	0795	9	GD/3	0/A	21	25	
049	/86	10		3	0796	9	GD/3	211/F	26	18	
050	/86	11		3	0797	9	GD/3	?/?	25	23	
051	/86	12		3	0798	9	GD/3	206/I	24	26	
052	/86	13		3	0799	9	GD/2	100/I	22	21	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
053	/86	14		3	0800	9	GD/3	107/E	23	23	
054	/86	15		3	0801	9	GD/2	87/E	23	19	
055	/86	ND			0802	BAD	TAPE				
056	/86	16		3	0803	9	GD/3	171/E	26	11	
057	/86	17		3	0804	9	GD/3	274/E	26	12	
058	/86	18		3	0805	9	GD/1.5	196/F	26	19	
059	/86	19		3	0806	9	GD/3	?/?	26	27	
060	/86	20		3	0807	9	GD/1.5	?/?	25	12	
061	/86	21		3	0808	9	GD/1.5	320/I	23	13	
062	/86	22		3	0809	9	GD/1.5	0/I	21	13	
063	/86	23		3	0810	9	GD/3	0/E	23	25	
064	/86	24		3	0811	9	GD/3	125/E	26	13	
065	/86	25		3	0812	9	GD/3	42/F	26	13	
066	/86	26		3	0813	9	GD/3	0/E	26	21	
067	/86	27		3	0814	9	GD/1.5	200/F	26	15	
068	/86	28		3	0815	9	GD/1.5	268/F	26	12	
069	/86	29		3	0816	9	GD/3	?/?	25	14	
070	/86	30		3	0817	9	GD/3	260/A	22	33	
071	/86	31		3	0818	9	GD/3	182/J	20	7	
072.16	/86	32		3	0819	9	GD/3	0/J	23	9	
072.18	/86	33		3	0820	9	GD/3	37/E	23	29	
073	/86	34		3	0821	9	GD/3	65/H	23	21	
074	/86	35		3	0822	9	GD/3	72/E	26	17	
075	/86	36		3	0823	9	GD/3	0/F	26	13	
076	/86	37		3	0824	9	GD/3	133/F	26	18	
077	/86	38		3	0825	9	GD/3	262/F	26	22	
078	/86	39		3	0826	9	OK/1.5	407/F	25	23	
079	/86	40		3	0827	9	GD/3	243/I	24	14	
080.16	/86	41		3	0828	9	GD/3	83/I	22	9	
080.18	/86	42		3	0829	9	GD/3	90/A	22	29	
081	/86	43		3	0830	9	GD/2	0/A	22	31	
082	/86	44		3	0831	9	GD/2	25/E	23	35	
083	/86	45		3	0832	9	GD/3	119/E	26	22	
084	/86	46		3	0833	9	GD/3	74/F	26	17	
085	/86	47		3	0834	9	GD/3	?/?	26	22	
086	/86	48		3	0835	9	GD/1.5	270/E	26	23	
087	/86	49		3	0836	9	OK/3	?/?	25	22	
088	/86	50		3	0837	9	GD/3	73/A	21	43	
089.16	/86	51		3	0838	9	OK/3	?/?	22	30	
089.18	/86	52		3	0839	9	GD/3	168/A	22	44	
090.16	/86	53		3	0840	9	GD/3	314/J	20	24	
090.18	/86	54		3	0841	9	GD/3	73/A	22	41	
091	/86	55		3	0842	9	GD/3	0/E	23	38	
092	/86	ND		NO TAPE							
093	/86	56		3	0843	9	GD/3	163/F	26	21	
094	/86	57		3	0844	9	GD/3	0/E	26	25	
095	/86	58		3	0845	9	GD/1.5	23/F	26	33	
096	/86	59		3	0846	9	GD/2	380/E	24	34	
097	/86	60		3	0847	9	GD/2	?/?	25	31	
098	/86	61		3	0848	9	GD/1.5	168/K	23	30	
099	/86	62		3	0849	9	GD/1.5	22/K	22	31	
100	/86	63		3	0850	9	GD/1	40/A	23	34	
101	/86	64		3	0851	9	GD/3	145/E	23	34	
102	/86	65		3	0852	9	GD/3	21/E	26	47	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
103	/86	ND		NO TAPE							
104	/86	66		3	0853	9	GD/3	41/F	26	39	
105	/86	67		3	0854	9	GD/1.5	416/E	15	53	
106	/86	68		3	0855	9	GD/2	152/A	16	62	
107	/86	69		3	0856	9	GD/3	?/?	23	27	
108	/86	70		3	0857	9	GD/1	86/K	22	23	
109	/86	71		3	0858	9	gd/1.5	0/e	23	49	
110	/86	72		3	0859	9	GD/2	65/E	23	44	
111	/86	73		3	0860	9	GD/2	143/E	26	27	
112	/86	74		3	0861	9	GD/3	286/F	26	41	
113	/86	75		3	0862	9	GD/1	44/F	14	66	
114	/86	76		3	0863	9	GD/3	103/F	26	47	
115	/86	77		3	0864	9	GD/1.5	351/F	26	50	
116	/86	78		3	0865	9	GD/3	?/?	25	46	
117	/86	79		3	0866	9	GD/1.5	170/I	23	41	
118	/86	80		3	0867	9	GD/1	0/I	21	24	
119	/86	81		3	0868	9	GD/3	240/E	23	52	
120	/86	82		3	0869	9	GD/1.5	73/E	26	38	
121	/86	83		3	0870	9	GD/1.5	62/E	26	30	
122	/86	84		3	0871	9	GD/3	48/F	26	36	
123	/86	85		3	0872	9	GD/2	86/F	26	40	
124	/86	86		3	0873	9	GD/2	255/F	26	44	
125	/86	87		3	0874	9	GD/3	?/?	26	41	
126.17	/86	88		3	0875A	9	GD/3	?/?	16	46	
126.18	/86	89		3	0877	9	GD/3	0/E	22	59	
127.16	/86	90		3	0875B	9	GD/3	36/I	19	48	
127.18	/86	91		3	0876	9	GD/3	42/E	24	54	
128	/86	92		3	0878	9	GD/3	51/E	25	52	
129	/86	93		3	0879	9	GD/3	37/E	25	44	
130	/86	94		3	0880	9	GD/2	14/E	13	52	
131	/86	95		3	0881	9	GD/2	0/E	26	41	
132	/86	96		3	0882	9	GD/2	0/E	26	40	
133	/86	97		3	0883	9	GD/3	289/F	26	58	
134.17	/86	98		3	0884	9	GD/3	382/F	26	62	
134.18	/86	99		3	0885	9	GD/3	0/A	23	72	
135.07	/86	100		3	0887	9	GD/1.5	43/F	21	57	
135.17	/86	101		3	0886	9	GD/3	?/?	23	58	
135.18	/86	102		3	0888	9	GD/3	0/E	24	71	
136.07	/86	103		3	0889	9	GD/1.5	100/F	19	60	
136.16	/86	104		3	0890	9	GD/3	232/I	23	53	
136.18	/86	105		3	0891	9	GD/3	38/E	24	62	
137.06	/86	106		3	0892	9	GD/1	0/F	19	47	
137.16	/86	107		3	0893	9	GD/2	90/J	20	42	
138	/86	108		3	0894	9	GD/3	0/E	25	44	
139	/86	109		3	0895	9	GD/3	85/E	26	49	
140	/86	110		3	0896	9	GD/3	146/E	26	52	
141	/86	111		3	0897	9	GD/1.5	11/E	26	49	
142	/86	112		3	0898	9	GD/3	156/F	26	53	
143	/86	113		3	0899	9	GD/3	323/F	27	42	
144	/86	114		3	0900	9	GD/3	?/?	24	49	
145	/86	115		3	0901	9	GD/3	176/I	24	46	
146.16	/86	116		3	0902	9	GD/3	225/J	22	39	
146.18	/86	117		3	0903	9	GD/3	43/E	24	53	
147.16	/86	118		3	0904	9	GD/2	137/K	22	36	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
147.18	/86	119		3	0905	9	GD/3	16/E	25	54	
148	/86	120		3	0906	9	GD/3	0/E	26	48	
149	/86	121		3	0907	9	GD/3	152/E	26	46	
150	/86	122		3	0908	9	GD/2	0/<E	22	60	
151	/86	123		3	0909	9	GD/2	108/F	26	38	
152	/86	124		3	0910	9	GD/3	289/F	26	46	
153	/86	125		3	0911	9	GD/3	?/?	26	47	
154	/86	126		3	0912	9	GD/2	27/E	24	54	
155	/86	127		3	0913	9	GD/3	143/E	24	49	
156	/86	128		3	0914	9	GD/3	57/E	25	50	
157	/86	129		3	0915	9	GD/3	42/E	25	51	
158	/86	130		3	0916	9	GD/3	60/E	26	46	
159	/86	131		3	0917	9	OK/1.5	77/I	26	43	
160	/86	132		3	0918	9	GD/3	0/F	26	42	
161	/86	133		3	0919	9	GD/2	265/F	26	36	
162	/86	134		3	0920	9	GD/3	?/E	26	34	
163	/86	135		3	0921	9	GD/3	55/E	24	61	
164	/86	136		3	0922	9	GD/3	122/I	23	50	
165	/86	137		3	0923	9	GD/1.5	0/E	20	59	
166	/86	138		3	0924	9	GD/3	57/E	24	61	
167	/86	139		3	0926	9	GD/3	61/E	26	50	
168	/86	140		3	0927	9	GD/3	?/?	21	55	
169	/86	ND		NO TAPE							
170	/86	141		3	0928	9	GD/1.5	97/F	26	52	
171	/86	142		3	0929	9	GD/2	329/F	25	52	
172.17	/86	143		3	0930	9	GD/3	?/?	25	49	
172.18	/86	144		3	0931	9	GD/3	25/E	23	58	
173	/86	145		3	0932	9	GD/3	?/?	23	42	
174	/86	146		3	0933	9	GD/3	0/E	24	64	
175	/86	147		3	0934	9	GD/2	30/E	24	65	
176	/86	148		3	0935	9	GD/3	0/E	26	61	
177	/86	149		3	0936	9	GD/1.5	16/E	26	60	
178	/86	150		3	0937	9	OK/1.5	0/E	26	58	
179	/86	151		3	0938	9	OK/3	32/F	26	48	
180	/86	152		3	0939	9	OK/3	55/A	22	64	
181	/86	153		3	0940	9	GD/3	8/A	23	60	
182	/86	154		3	0941	9	GD/3	20/E	23	54	
183	/86	155		3	0942	9	GD/2	41/E	23	49	
184	/86	156		3	0943	9	GD/3	55/E	24	61	
185	/86	157		3	0944	9	GD/3	96/E	24	67	
186	/86	158		3	0945	9	GD/3	226/E	26	65	
187	/86	159		3	0946	9	GD/3	24/E	26	57	
188	/86	160		3	0947	9	GD/2	0/E	26	51	
189	/86	161		3	0948	9	GD/3	0/A	22	71	
190	/86	162		3	0949	9	GD/3	?/?	25	57	
191	/86	163		3	0950	9	GD/3	0/A	23	62	
192	/86	164		3	0951	9	GD/3	107/A	23	68	
193	/86	165		3	0952	9	OK/3	0/E	24	72	
194	/86	166		3	0953	9	GD/3	0/E	23	76	
195	/86	167		3	0954	9	GD/2	104/E	26	78	
196	/86	168		3	0955	9	GD/2	19/E	26	70	
197	/86	169		3	0956	9	GD/3	0/E	26	72	
198	/86	170		3	0957	9	GD/3	208/F	26	68	
199	/86	171		3	0958	9	GD/1	333/F	14	82	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
200	/86	172		3	0959	9	GD/3	20/E	20	69	
201	/86	ND		NO TAPE							
202	/86	173		3	0960	9	GD/3	72/A	23	69	
203	/86	174		3	0961	9	GD/2	0/E	21	76	
204	/86	175		3	0962	9	GD/3	39/E	17	74	
205	/86	176		3	0963	9	GD/3	0/E	26	54	
206	/86	177		3	0964	9	OK/3	?/?	26	8	
207	/86	178		3	0965	9	GD/3	14/F	26	69	
208	/86	179		3	0966	9	GD/3	259/F	26	74	
209	/86	180		3	0967	9	GD/3	?/?	24	72	
210	/86	181		3	0968	9	GD/3	228/I	23	69	
211	/86	182		3	0969	9	GD/3	33/I	22	62	
212	/86	183		3	0970	9	GD/2	?/?	16	69	
213	/86	184		3	0971	9	GD/3	48/H	27	55	
214	/86	185		3	0972	9	GD/3	20/E	26	62	
215	/86	186		3	0973	9	GD/1.5	97/F	26	66	
216	/86	187		3	0974	9	GD/3	?/?	26	68	
217	/86	188		3	0975	9	GD/3	188/F	26	65	
218.17	/86	189		3	0976	9	GD/3	?/?	25	64	
218.18	/86	190		3	0977	9	GD/2	62/A	14	69	
219	/86	191		3	0978	9	GD/3	?/?	24	69	
220	/86	192		3	0979	9	GD/1.5	115/I	18	68	
221	/86	193		3	0980	9	GD/3	0/E	25	71	
222	/86	194		3	0981	9	GD/2	113/E	25	62	
223	/86	195		3	0982	9	GD/2	178/E	24	59	
224	/86	196		3	0983	9	GD/3	282/E	26	58	
225	/86	197		3	0984	9	GD/2	0/F	26	61	
226	/86	198		3	0985	9	GD/3	132/F	23	56	
227	/86	199		3	0986	9	OK/3	327/F	26	59	
228	/86	200		3	0987	9	OK/3	?/?	25	63	
229	/86	201		3	0988	9	GD/3	170/I	24	62	
230	/86	202		3	0989	9	GD/3	130/I	22	63	
231	/86	203		3	0990	9	GD/3	0/E	25	67	
232	/86	204		3	0991	9	GD/3	0/E	26	61	
233	/86	205		3	0992	9	GD/2	43/E	26	58	
234	/86	206		3	0993	9	GD/3	0/E	26	58	
235	/86	207		3	0994	9	GD/3	?/?	26	59	
236	/86	208		3	0995	9	OK/1.5	298/F	26	62	
237	/86	209		3	0996	9	GD/3	?/?	25	57	
238	/86	210		3	0997	9	GD/3	17/E	24	57	
239	/86	211		3	0998	9	GD/3	?/?	22	52	
240.16	/86	212		3	0999	9	GD/3	60/J	25	42	
240.18	/86	213		3	1000	9	GD/3	0/E	25	44	
241	/86	214		3	1001	9	OK/3	55/E	25	54	
242	/86	215		3	1002	9	OK/3	11/E	26	62	
243	/86	216		3	1003	9	GD/2	15/F	26	65	
244	/86	217		3	1004	9	GD/2	0/F	26	60	
245	/86	218		3	1005	9	GD/3	240/F	26	61	
246	/86	219		3	1006	9	GD/3	?/?	27	63	
247	/86	ND		NO TAPE							
248	/86	220		3	1007	9	GD/2	0/A	25	59	
249	/86	ND		NO TAPE							
250	/86	221		3	1008	9	GD/3	250/A	25	55	
251	/86	222		3	1009	9	GD/3	70/E	26	56	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
252	/86	223		3	1010	9	GD/1	?/E	18	20	
253	/86	224		3	1011	9	GD/3	62/F	26	53	
254	/86	225		3	1012	9	PR/1.5	88/F	26	55	
255	/86	226		3	1013	9	GD/3	?/F	27	59	
256	/86	227		3	1014	9	GD/1.5	0/A	24	59	
257.17	/86	228		3	1015	9	GD/2	97/K	24	62	
257.18	/86	229		3	1016	9	GD/3	73/A	25	50	
258	/86	230		3	1017	9	GD/3	30/A	25	55	
259	/86	231		3	1018	9	GD/3	0/E	25	55	
260	/86	232		3	1019	9	GD/2	0/E	26	50	
261	/86	233		3	1020	9	OK/2	26/E	22	44	
262	/86	234		3	1021	9	GD/2	70/F	26	51	
263	/86	235		3	1022	9	GD/3	138/F	26	43	
264	/86	236		3	1023	9	GD/3	335/F	26	51	
265	/86	237		3	1024	9	GD/3	?/F	26	54	
266	/86	ND		NO TAPE							
267	/86	238		3	1025	9	GD/1.5	0/K	21	42	
268	/86	239		3	1026	9	GD/2	259/A	25	49	
269	/86	240		3	1027	9	GD/3	155/E	26	60	
270	/86	241		3	1028	9	GD/1.5	110/I	24	48	
271	/86	242		3	1029	9	GD/3	?/A	26	51	
272	/86	243		3	1030	9	GD/3	148/F	23	57	
273	/86	244		3	1031	9	GD/1.5	190/F	27	51	
274	/86	245		3	1032	9	GD/3	246/E	24	48	
275	/86	246		3	1033	9	GD/3	?/?	24	52	
276	/86	247		3	1034	9	GD/1.5	?/?	23	39	
277	/86	248		3	1035	9	GD/2	202/E	25	36	
278	/86	249		3	1036	9	GD/2	115/E	25	33	
279	/86	250		3	1037	9	GD/3	260/F	26	33	
280	/86	251		3	1038	9	GD/2	95/A	22	51	
281	/86	252		3	1039	9	GD/1.5	0/F	26	44	
282	/86	253		3	1040	9	GD/2	136/F	26	39	
283	/86	254		3	1041	9	GD/3	248/E	22	39	
284	/86	255		3	1042	9	GD/2	0/E	24	40	
285	/86	256		3	1043	9	GD/2	108/A	24	43	
286	/86	257		3	1044	9	GD/1.5	114/I	21	34	
287	/86	258		3	1045	9	GD/2	67/E	25	31	
288	/86	259		3	1046	9	GD/2	35/E	26	25	
289	/86	260		3	1047	9	GD/3	136/E	26	32	
290	/86	261		3	1048	9	GD/1	0/E	18	46	
291	/86	262		3	1049	9	GD/3	240/I	26	35	
292	/86	263		3	1050	9	GD/3	322/F	26	35	
293.17	/86	264		3	1051	9	GD/3	?/?	25	37	
293.19	/86	265		3	1052	9	GD/3	0/A	24	57	
294	/86	266		3	1053	9	GD/3	176/I	24	32	
295	/86	267		3	1054	9	GD/2	0/E	25	40	
296	/86	268		3	1055	9	GD/3	?/?	25	34	
297	/86	269		3	1056	9	GD/2	170/E	25	34	
298	/86	270		3	1057	9	GD/3	217/E	26	28	
299	/86	271		3	1058	9	GD/1.5	73/F	26	28	
300	/86	272		3	1059	9	GD/1.5	0/F	26	25	
301	/86	273		3	1060	9	GD/1.5	292/E	26	20	
302	/86	274		3	1061	9	GD/3	18/A	24	34	
303	/86	275		3	1062	9	GD/3	195/A	24	37	

Sea Surface Temperature Atlas Catalogue Area O 1986

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
304	/86	276		3	1063	9	GD/3	0/E	24	32	
305	/86	277		3	1064	9	GD/3	34/A	25	30	
306	/86	278		3	1065	9	GD/1.5	149/E	25	27	
307	/86	279		3	1066	9	GD/3	96/E	26	27	
308	/86	280		3	1067	9	GD/3	62/I	23	27	
309	/86	281		3	1068	9	OK/3	18/F	26	23	
310	/86	282		3	1069	9	GD/1.5	147/F	26	21	
311	/86	283		3	1070	9	GD/2	284/E	23	31	
312	/86	284		3	1071	9	GD/3	?/?	25	29	
313	/86	285		3	1072	9	GD/1	145/I	23	26	
314	/86	286		3	1073	9	GD/3	0/E	15	46	
315	/86	287		3	1074	9	GD/2	203/E	16	33	
316	/86	288		3	1075	9	GD/3	82/E	26	16	
317	/86	289		3	1076	9	GD/1.5	0/E	13	22	
318	/86	290		3	1077	9	GD/3	28/E	26	13	
319	/86	291		3	1078	9	GD/3	158/F	26	24	
320	/86	292		3	1079	9	GD/3	?/?	26	21	
321	/86	293		3	1080	9	GD/3	?/?	25	19	
322	/86	294		3	1081	9	GD/3	31/E	24	16	
323	/86	295		3	1082	9	GD/3	25/I	21	23	
324	/86	296		3	1083	9	GD/3	0/E	24	10	
325	/86	297		3	1084	9	GD/3	90/H	25	12	
326	/86	298		3	1085	9	GD/3	74/I	26	17	
327	/86	299		3	1086	9	GD/3	35/F	26	23	
328	/86	300		3	1087	9	GD/3	?/?	26	19	
329	/86	301		3	1088	9	GD/3	310/F	26	13	
330	/86	302		3	1089	9	GD/3	?/?	25	21	
331	/86	303		3	1090	9	GD/3	40/E	15	38	
332	/86	304		3	1091	9	GD/3	?/?	24	19	
333	/86	305		3	1092	9	GD/3	?/?	25	15	
334	/86	306		3	1093	9	GD/2	127/E	25	19	
335	/86	ND		NO TAPE							
336	/86	307		3	1094	9	GD/2	0/F	26	20	
337	/86	308		3	1095	9	GD/1.5	0/F	26	19	
338	/86	309		3	1096	9	OK/3	440/F	27	20	
339	/86	310		3	1097	9	GD/3	0/A	25	15	
340	/86	311		3	1098	9	GD/3	139/A	25	27	
341	/86	312		3	1099	9	GD/3	0/A	26	20	
342	/86	313		3	1100	9	GD/3	0/E	30	15	
343	/86	314		3	1101	9	GD/3	0/E	33	14	
344	/86	315		3	1102	9	GD/3	17/H	34	13	
345	/86	316		3	1103	9	GD/3	117/F	35	12	
346	/86	317		3	1104	9	OK/3	76/F	35	13	
347	/86	318		3	1105	9	GD/3	180/F	36	11	
348	/86	319		3	1106	9	GD/3	328/F	35	13	
349	/86	320		3	1107	9	GD/1.5	?/?	31	13	
350	/86	321		3	1108	9	GD/3	50/E	27	17	
351	/86	322		3	1109	9	GD/3	0/E	33	16	
352	/86	323		3	1110	9	GD/3	?/?	21	19	
353	/86	324		3	1111	9	GD/3	112/H	35	16	
354	/86	325		3	1112	9	GD/1.5	14/I	35	18	
355	/86	326		3	1113	9	OK/3	0/F	36	15	
356	/86	327		3	1114	9	GD/3	131/F	36	13	
357	/86	328		3	1115	9	PR/3	269/F	33	9	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
358	/86	329		3	1116	9	OK/3	174/E	34	11	
359	/86	330		3	1117	9	GD/3	337/I	31	10	
360	/86	331		3	1118	9	GD/3	?/?	29	21	
361	/86	332		3	1119	9	GD/3	74/E	32	10	
362	/86	333		3	1120	9	GD/3	0/E	21	19	
363	/86	334		3	1121	9	GD/3	207/E	35	15	
364	/86	335		3	1122	9	GD/2	16/F	36	9	
365	/86	336		3	1123	9	GD/3	57/F	37	12	

Appendix 2: Catalogue of Daily SST and Visible Images in Area P

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
001	/84	ND		NO TAPE							
002	/84	ND		NO TAPE							
003	/84	ND		NO TAPE							
004	/84	ND		NO TAPE							
005	/84	ND		NO TAPE							
006	/84	ND		NO TAPE							
007	/84	ND		NO TAPE							
008	/84	ND		NO TAPE							
009	/84	ND		NO TAPE							
010	/84	ND		NO TAPE							
011	/84	ND		NO TAPE							
012	/84	ND		NO TAPE							
013	/84	ND		NO TAPE							
014	/84	ND		NO TAPE							
015	/84	ND		NO TAPE							
016	/84	ND		NO TAPE							
017	/84	ND		NO TAPE							
018	/84	ND		NO TAPE							
019	/84	ND		NO TAPE							
020	/84	ND		NO TAPE							
021	/84	ND		NO TAPE							
022	/84	ND		NO TAPE							
023	/84	ND		NO TAPE							
024	/84	ND		NO TAPE							
025	/84	11	12	1	0001	7	GD/0	300/E	65	14	
026	/84	13	14	1	0002	7	GD/2	163/F	74	24	
027	/84	17	18	1	0003	7	OK/3	72/F	90	22	
028	/84	19	20	1	0004	7	GD/3	>512/E	86	13	
029	/84	21	22	1	0005	7	OK/1.5	430/F	82	15	
030.17	/84	23	24	1	0006	7	OK/1	>512/E	76	10	
030.19	/84	25	26	1	0007	7	OK/3	190/E	62	13	
031	/84	27	28	1	0008	7	GD/3	257/H	69	6	
032	/84	29	30	1	0009	7	GD/2	26/E	76	9	
033	/84	31	32	1	0010	7	GD/3	57/E	83	17	
034	/84	33	34	1	0011	7	PR/1.5	17/E	90	20	
035	/84	35	36	1	0012	7	OK/1	46/F	92	22	
036	/84	37	38	1	0013	7	OK/1.5	312/E	88	17	
037	/84	39	40	1	0014	7	GD/3	>512/I	84	18	
038	/84	41	42	1	0015	7	GD/0	271/I	78	10	
039	/84	43	44	1	0016	7	OK/3	200/E	67	7	
040	/84	45	46	1	0017	7	OK/3	10/E	75	11	
041	/84	47	48	1	0018	7	OK/3	22/E	83	12	
042	/84	49	50	1	0019	7	OK/2	189/E	89	12	
043	/84	51	52	1	0020	7	OK/2	93/F	92	21	
044	/84	53	54	1	0021	7	OK/2	134/F	88	29	
045	/84	ND		NO TAPE							
046	/84	55	56	1	0022	7	OK/3	200/I	79	27	
047.17	/84	57	58	1	0023	7	OK/2	54/I	69	16	
047.19	/84	59	60	1	0024	7	GD/3	49/E	66	27	
048	/84	61	62	1	0025	7	OK/3	50/E	62	21	
049	/84	63	64	1	0027	7	PR/3	0/E	81	18	
050	/84	65	66	1	0026	7	PR/3	122/E	88	19	
051	/84	67	68	1	0028	7	OK/3	155/H	92	19	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
052	/84	69	70	1	0029	7	OK/3	122/F	89	13	
053	/84	71	72	1	0030	7	OK/1.5	79/K	84	13	
054	/84	73	74	1	0031	7	GD/3	243/I	79	16	
055	/84	75	76	1	0032	7	GD/3	257/J	69	18	
056	/84	77	78	1	0033	7	PR/1	209/B	73	21	
057	/84	79	80	1	0034	7	GD/3	35/H	80	21	
058	/84	81	82	1	0035	7	GD/3	65/H	87	20	
059	/84	83	84	1	0036	7	OK/1	134/E	92	8	
060	/84	85	86	1	0037	7	OK/1.5	>512/NN	89	24	
061	/84	87	88	1	0038	7	PR/3	10/E	85	13	
062	/84	89	90	1	0039	7	PR/1.5	244/I	80	25	
063	/84	91	92	1	0040	7	GD/3	95/K	70	23	
064	/84	ND		NO TAPE							
065	/84	93	94	1	0041	7	GD/3	0/E	79	15	
066	/84	95	96	1	0042	7	OK/1.5	215/H	86	11	
067	/84	97	98	1	0043	7	PR/3	90/F	92	17	
068	/84	99	100	1	0044	7	GD/1	164/F	90	16	
069	/84	101	102	1	0045	7	GD/1.5	342/F	86	25	
070	/84	103	104	1	0046	7	GD/2	296/E	80	19	
071	/84	105	106	1	0047	7	OK/1.5	>512/F	72	15	
072	/84	107	108	1	0048	7	OK/3	0/E	71	21	
073	/84	109	110	1	0049	7	GD/2	0/E	78	17	
074	/84	111	112	1	0050	7	OK/3	114/E	85	20	
075	/84	1	2	2	0051	7	OK/3	198/F	91	24	
076	/84	3	4	2	0052	7	OK/3	29/H	90	31	
077	/84	5	6	2	0053	7	GD/1	>512/F	86	32	
078	/84	7	8	2	0054	7	GD/2	470/E	82	32	
079.17	/84	9	10	2	0056	7	OK/2	304/E	65	18	
079.19	/84	11	12	2	0055	7	OK/3	50/E	62	17	
080	/84	13	14	2	0057	7	OK/3	400/E	70	26	
081	/84	15	16	2	0058	7	GD/3	120/E	78	37	
082	/84	17	18	2	0059	7	GD/1	100/E	55	58	
083	/84	19	20	2	0060	7	OK/3	0/F	91	37	
084	/84	21	22	2	0061	7	PR/2	70/F	91	26	
085	/84	ND		NO TAPE							
086	/84	23	24	2	0062	7	PR/3	490/F	83	32	
087	/84	25	26	2	0063	7	GD/2	150/K	77	25	
088	/84	ND		NO TAPE							
089	/84	27	28	2	0064	7	GD/3	0/E	77	27	
090	/84	29	30	2	0065	7	OK/1.5	360/E	84	19	
091	/84	31	32	2	0066	7	GD/2	300/E	91	32	
092	/84	33	34	2	0067	7	OK/3	0/F	91	30	
093	/84	35	36	2	0068	7	GD/3	219/F	88	34	
094	/84	37	38	2	0069	7	GD/3	461/F	84	33	
095	/84	39	40	2	0070	7	OK/2	203/I	79	35	
096	/84	41	42	2	0071	7	GD/2	297/H	69	29	
097	/84	ND		NO TAPE							
098	/84	ND		NO TAPE							
099	/84	ND		NO TAPE							
100	/84	ND		NO TAPE							
101	/84	43	44	2	0072	7	OK/1	240/E	89	46	
102	/84	45	46	2	0073	7	GD/1	>512/F	84	36	
103	/84	ND		NO TAPE							
104	/84	ND		NO TAPE							

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
105	/84	ND		NO TAPE							
106	/84	ND		NO TAPE							
107	/84	47	48	2	0074	7	GD/1.5	0/F	90	40	
108	/84	49	50	2	0075	7	GD/3	167/H	92	29	
109	/84	51	52	2	0076	7	OK/3	54/F	89	31	
110	/84	53	54	2	0077	7	GD/2	357/F	85	48	
111	/84	55	56	2	0078	7	GD/3	214/K	80	43	
112	/84	57	58	2	0079	7	GD/3	176/E	68	24	
113	/84	59	60	2	0080	7	0/0	0/E	72	34	
114	/84	61	62	2	0081	7	GD/3	76/E	83	39	
115	/84	63	64	2	0082	7	GD/3	0/E	90	43	
116.18	/84	65	66	2	0083	7	GD/1.5	0/E	93	48	
116.20	/84	67	68	2	0084	7	GD/3	0/A	28	51	
117.18	/84	69	70	2	0085	7	GD/2	172/F	90	54	
117.19	/84	71	72	2	0086	7	GD/3	57/A	35	72	
118	/84	73	74	2	0087	7	GD/1.5	341/F	86	60	
119	/84	75	76	2	0088	7	GD/1.5	>512/F	65	65	
120	/84	ND		NO TAPE							
121	/84	77	78	2	0089	7	GD/2	50/E	75	38	
122	/84	79	80	2	0090	7	GD/2	186/E	82	49	
123	/84	81	82	2	0091	7	GD/1.5	36/E	90	46	
124	/84	83	84	2	0092	7	GD/2	0/F	93	48	
125	/84	85	86	2	0093	7	GD/1.5	102/F	90	40	
126.18	/84	87	88	2	0094	7	GD/2	0/K	86	38	
126.19	/84	89	90	2	0095	7	GD/1.5	51/A	41	45	
127	/84	91	92	2	0096	7	GD/3	0/E	81	39	
128	/84	93	94	2	0097	7	GD/2	0/E	66	48	
129	/84	95	96	2	0098	7	GD/2	110/E	74	45	
130	/84	97	98	2	0099	7	GD/3	0/H	81	40	
131	/84	99	100	2	0100	7	GD/3	155/E	88	39	
132.11	/84	101	102	2	0101	8	OK/1	76/F	77	82	
132.18	/84	103	104	2	0102	7	GD/3	22/F	93	57	
133	/84	105	106	2	0103	7	GD/3	39/F	90	58	
134	/84	107	108	2	0104	7	GD/3	416/F	86	50	
135	/84	109	110	2	0105	7	GD/3	248/K	82	50	
136	/84	111	112	2	0106	7	PR/2	>512/F	74	49	
137	/84	113	114	2	0107	7	GD/3	0/B	73	48	
138	/84	115	116	2	0108	7	GD/2	0/E	54	52	
139	/84	1	2	3	0109	7	GD/3	122/E	86	52	
140	/84	3	4	3	0110	7	GD/1	0/E	72	63	
141	/84	5	6	3	0111	7	GD/1	0/F	82	57	
142	/84	7	8	3	0112	7	GD/2	428/I	87	50	
143	/84	9	10	3	0113	7	GD/3	417/I	82	52	
144	/84	11	12	3	0114	7	GD/3	121/K	75	55	
145	/84	13	14	3	0115	7	GD/2	10/E	72	64	
146	/84	15	16	3	0116	7	OK/3	20/E	79	51	
147	/84	ND		NO TAPE							
148	/84	17	18	3	0117	7	GD/2	47/F	65	77	
149	/84	19	20	3	0118	7	GD/1.5	15/F	91	46	
150	/84	21	22	3	0119	7	GD/2	247/F	87	57	
151	/84	23	24	3	0120	7	GD/2	347/I	82	57	
152	/84	25	26	3	0121	7	OK/2	162/I	76	56	
153	/84	27	28	3	0122	7	OK/3	0/E	53	47	
154	/84	29	30	3	0123	7	GD/3	0/H	56	43	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
155	/84	31	32	3	0124	7	GD/3	O/H	85	34	
156	/84	33	34	3	0125	7	OK/3	81/H	95	53	
157	/84	35	36	3	0126	7	OK/3	0/H	95	67	
158	/84	37	38	3	0127	7	OK/2	>512/E	92	64	
159	/84	39	40	3	0128	7	OK/3	>512/F	85	60	
160.17	/84	41	42	3	0129	7	OK/3	169/I	72	56	
160.19	/84	43	44	3	0130	7	GD/2	0/E	45	50	
161	/84	45	46	3	0131	7	GD/2	0/E	52	52	
162.12	/84	47	48	3	0132	8	PR/3	0/E	72	88	
162.19	/84	49	50	3	0133	7	PR/3	26/E	56	55	
162.22	/84	51		3	0134	8	PR/3	49/E	94	76	
163	/84	52	53	3	0135	7	OK/3	78/E	88	68	
164.08	/84	54	55	3	0136	7	PR/2	0/E	74	49	
164.18	/84	56	57	3	0137	7	GD/3	0/E	78	66	
165	/84	58	59	3	0138	7	OK/3	28/F	95	56	
166	/84	60	61	3	0139	7	OK/1.5	204/F	92	53	
167	/84	62	63	3	0140	7	OK/3	>512/E	86	51	
168.17	/84	64	65	3	0141	7	PR/2	135/K	76	56	
168.19	/84	66	67	3	0142	7	OK/3	0/E	48	53	
169.17	/84	68	69	3	0143	7	GD/3	0/K	62	51	
169.19	/84	70	71	3	0144	7	PR/3	0/E	52	51	
170	/84	72	73	3	0145	7	PR/3	0/H	55	43	
171	/84	74	75	3	0146	7	PR/3	275/E	87	58	
172	/84	76	77	3	0147	7	OK/3	0/F	94	69	
173	/84	78	79	3	0148	7	OK/3	66/F	95	62	
174.18	/84	80	81	3	0149	7	OK/3	224/E	92	69	
174.20	/84	82	83	3	0150	7	PR/3	0/A	46	75	
175	/84	84	85	3	0151	7	OK/3	?/F	86	67	
176.17	/84	86	87	3	0152	7	GD/1	?/F	26	72	
176.19	/84	88	89	3	0153	7	GD/3	167/E	58	76	
177.17	/84	90	91	3	0154	7	PR/3	0/I	63	77	
177.19	/84	92	93	3	0155	7	PR/3	?/?	64	73	
177.22	/84	94	95	3	0156	6	PR/3	0/F	93	84	
178.07	/84	96	97	3	0157	7	OK/1	201/F	83	69	
178.12	/84	98	99	3	0158	6	OK/3	86/I	80	84	
179.07	/84	100	101	3	0159	7	PR/2	?/F	69	64	
179.18	/84	102	103	3	0160	7	OK/3	29/E	86	67	
180	/84	104	105	3	0161	7	PR/3	39/E	93	73	
181	/84	106	107	3	0162	7	OK/3	39/F	96	72	
182	/84	108	109	3	0163	7	PR/3	370/F	92	56	
183.18	/84	110	111	3	0164	7	PR/3	403/F	85	52	
183.19	/84	112	113	3	0165	7	OK/3	203/E	52	61	
184	/84	114	115	3	0166	7	OK/3	0/E	58	76	
185	/84	1	2	4	0167	7	OK/3	0/A	64	69	
186	/84	3	4	4	0168	6	OK/3	201/E	75	81	
187	/84	5	6	4	0169	7	OK/2	0/E	85	64	
188	/84	7	8	4	0170	7	OK/3	0/E	92	76	
189	/84	9	10	4	0171	7	OK/3	0/F	96	77	
190	/84	11	12	4	0172	7	PR/3	130/F	93	74	
191	/84	13	14	4	0173	7	OK/2	399/F	87	72	
192	/84	15	16	4	0174	7	OK/1.5	>512/E	79	73	
193	/84	17	18	4	0175	7	OK/1.5	72/I	61	75	
194	/84	19	20	4	0176	6	OK/3	93/F	95	74	
195	/84	21	22	4	0177	6	GD/3	0/E	79	77	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
196	/84	23	24	4	0178	7	OK/3	0/E	92	78	
197	/84	25	26	4	0179	7	OK/1.5	0/F	96	74	
198	/84	27	28	4	0180	7	OK/2	198/F	93	66	
199	/84	29	30	4	0181	7	OK/3	>512/E	86	66	
200	/84	31	32	4	0182	7	OK/3	>512/E	80	66	
201	/84	33	34	4	0183	7	OK/3	0/E	63	64	
202.07	/84	35	36	4	0186	7	GD/3	385/F	81	75	
202.19	/84	37	38	4	0185	7	OK/1.5	0/E	74	83	
202.22	/84	39	40	4	0184	7	OK/2	0/E	93	90	
203.07	/84	41	42	4	0187	7	GD/1.5	350/F	74	86	
203.19	/84	43	44	4	0188	7	GD/3	0/E	84	79	
204.11	/84	45	46	4	0190	6	GD/3	0/E	88	86	
204.18	/84	47	48	4	0189	7	OK/3	0/E	91	72	
205	/84	49	50	4	0191	7	OK/1.5	7/F	96	63	
206	/84	51	52	4	0192	7	GD/1	28/F	76	58	
207.12	/84	53	54	4	0193	6	OK/2	0/A	75	79	
207.18	/84	55	56	4	0194	7	OK/1.5	361/F	88	68	
207.19	/84	57	58	4	0195	7	OK/1.5	0/A	51	68	
208	/84	59	60	4	0196	7	GD/1.5	>512/E	82	74	
209	/84	61	62	4	0197	7	GD/1.5	74/I	69	81	
210	/84	63	64	4	0198	7	OK/3	120/B	68	66	
211.12	/84	65	66	4	0199	6	OK/3	200/E	72	88	
211.19	/84	67	68	4	0200	7	OK/3	200/E	81	74	
212	/84	69	70	4	0201	7	PR/2	400/E	91	68	
213.11	/84	71	72	4	0202	6	OK/1.5	113/F	91	75	
213.18	/84	73	74	4	0203	7	OK/1.5	0/F	97	63	
214	/84	75	76	4	0204	7	GD/1.5	267/F	94	62	
215.18	/84	77	78	4	0205	7	GD/2	326/F	90	64	
215.19	/84	79	80	4	0206	7	OK/2	400/E	51	61	
216.18	/84	81	82	4	0207	7	GD/2	400/I	81	68	
216.19	/84	83	84	4	0208	7	GD/3	120/A	57	70	
217.17	/84	85	86	4	0209	7	OK/1	200/I	65	59	
217.22	/84	87	88	4	0210	7	GD/2	0/A	64	71	
218	/84	89	90	4	0211	7	GD/1.5	0/E	68	63	
219	/84	91	92	4	0212	7	GD/1.5	60/E	81	67	
220	/84	93	94	4	0213	7	OK/1.5	0/E	91	64	
221	/84	115	116	4	0214	7	GD/1.5	0/F	92	70	
222	/84	95	96	4	0215	6	GD/1	222/F	76	82	
223	/84	97	98	4	0216	7	GD/2	341/E	91	65	
224.18	/84	99	100	4	0217	7	GD/2	>512/E	80	84	
224.21	/84	101	102	4	0218	6	GD/1.5	326/E	89	88	
225	/84	ND		NO TAPE							
226	/84	ND		NO TAPE							
227	/84	103	104	4	0219	7	GD/1.5	0/E	81	74	
228	/84	105	106	4	0220	7	GD/1.5	O/E	91	73	
229.11	/84	107	108	4	0221a	6	GD/1	O/E	86	83	
229.18	/84	109	110	4	0221b	7	GD/1	50/E	37	85	
230	/84	111	112	4	0222	7	GD/1.5	70/E	95	79	
231	/84	113	114	4	0223	7	PR/1.5	350/E	91	76	
232	/84	1	2	5	0224	6	OK/3	200/E	74	82	
233	/84	3	4	5	0225	6	OK/2	145/E	84	83	
234	/84	5	6	5	0226	7	GD/1.5	0/E	68	56	
235	/84	ND		NO TAPE							
236	/84	7	8	5	0227	7	GD/1.5	54/E	61	77	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
237	/84	9	10	5	0228	6	OK/1	52/E	83	87	
238	/84	11	12	5	0229	6	OK/1	320/H	92	82	
239	/84	13	14	5	0230	7	GD/1.5	280/F	92	76	
240	/84	15	16	5	0231	7	GD/1	0/E	89	71	
241.17	/84	17	18	5	0232	7	GD/2	100/I	76	72	
241.19	/84	19	20	5	0233	7	GD/3	48/A	62	78	
242	/84	21	22	5	0234	7	GD/3	39/E	68	85	
243	/84	ND		NO TAPE							
244	/84	23	24	5	0235	7	GD/2	121/E	90	78	
245	/84	25	26	5	0236	7	GD/2	193/F	97	73	
246	/84	27	28	5	0237	7	OK/3	100/E	95	67	
247	/84	29	30	5	0238	7	GD/1.5	>512/F	92	67	
248	/84	31	32	5	0239	7	OK/3	>512/F	73	60	
249.12	/84	33	34	5	0240	6	GD/1.5	200/E	78	84	
249.18	/84	35	36	5	0241	7	GD/1.5	98/K	74	74	
250	/84	37	38	5	0242	7	GD/1.5	0/I	62	55	
251	/84	39	40	5	0243	7	GD/1.5	0/E	80	67	
252	/84	41	42	5	0244	7	GD/2	0/E	90	65	
253	/84	43	44	5	0245	7	GD/1.5	180/E	97	62	
254	/84	45	46	5	0246	7	GD/1.5	30/F	96	70	
255.18	/84	47	48	5	0247	7	GD/1.5	230/F	92	65	
255.20	/84	49	50	5	0248	7	GD/3	0/A	43	59	
256.	/84	51	52	5	0249	7	GD/3	23/A	51	56	
257	/84	53	54	5	0250	7	GD/1.5	?/?	59	64	
258	/84	55	56	5	0251	7	GD/2	0/E	68	56	
259.22	/84	59	60	5	0252	6	GD/1.5	189/E	66	53	
259.19	/84	57	58	5	0253	7	OK/1	100/E	77	58	
260	/84	61	62	5	0254	7	GD/3	300/E	89	62	
261	/84	63	64	5	0255	7	OK/1	200/F	70	69	
262.11	/84	65	66	5	0256	6	OK/3	350/E	83	75	
262.18	/84	67	68	5	0257	7	GD/3	0/F	94	62	
263	/84	113	114	5	0258	6	OK/2	52/F	89	66	
264.19	/84	69	70	5	0259	7	GD/3	17/A	50	60	
264.22	/84	71	72	5	0260	6	OK/1.5	19/EA	80	54	
265	/84	73	74	5	0261	7	GD/2	0/A	58	57	
266	/84	ND		NO TAPE							
267	/84	ND		NO TAPE							
268	/84	75	76	5	0262	7	OK/3	100/E	78	51	
269	/84	77	78	5	0264	7	OK/1.5	150/E	96	63	
270	/84	81	82	5	0265	7	OK/1.5	50/F	96	50	
271	/84	83	84	5	0266	7	GD/1	277/F	93	48	
272.11	/84	85	86	5	0267	6	PR/2	97/F	84	60	
272.99	/84	ND			0268	7	BAD	TAPE			
273	/84	87	88	5	0269	7	OK/1.5	174/I	77	54	
274.19	/84	89	90	5	0263	7	OK/1	70/E	66	59	
274.21	/84	91	92	5	0270	6	OK/3	204/F	90	57	
275	/84	93	94	5	0271	7	GD/2	0/F	76	53	
276	/84	95	96	5	0272	7	GD/3	196/E	88	53	
277	/84	97	98	5	0273	7	GD/3	161/-	26	40	
278	/84	99	100	5	0274	7	GD/2	238/A	34	46	
279	/84	101	102	5	0275	7	GD/1	202/F	89	46	
280	/84	103	104	5	0276	7	OK/3	12/A	48	60	
281	/84	105	106	5	0277	7	GD/1 5	281/A	57	49	
282	/84	107	108	5	0278	7	GD/3	0/I	60	37	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
283	/84	109	110	5	0279	7	GD/3	0/E	75	40	
284.19	/84	111	112	5	0280	7	OK/3	261/E	87	56	
284.??	/84	ND			0281	BAD	TAPE				
285	/84	1	2	6	0282	7	OK/3	336/B	94	58	
286	/84	3	4	6	0283	7	GD/3	391/E	96	55	
287	/84	ND		NO TAPE							
288	/84	ND		NO TAPE							
289	/84	5	6	6	0285	7	GD/3	22/E	56	67	
290.17	/84	7	8	6	0286	7	OK/2	>512/?	61	64	
290.19	/84	9	10	6	0287	7	PR/3	0/E	65	72	
291	/84	11	12	6	0288	7	OK/3	17/E	74	85	
292.11	/84	13	14	6	0289	7	PR/3	0/E	89	78	
292.19	/84	15	16	6	0290	7	PR/3	100/E	86	59	
293	/84	ND			0291	7	BAD	TAPE			
294	/84	17	18	6	0292	7	GD/1	0/F	66	64	
295	/84	19	20	6	0293	7	OK/3	228/F	93	46	
296	/84	21	22	6	0294	7	GD/1.5	>512/?	47	54	
297	/84	23	24	6	0295	7	PR/2	250/I	79	38	
298	/84	25	26	6	0296	7	GD/3	0/E	64	42	
299	/84	27	28	6	0297	7	OK/3	260/E	74	44	
300	/84	29	30	6	0298	7	OK/2	0/E	85	28	
301	/84	35	36	6	0299	7	PR/2	0/E	93	41	
302	/84	31	32	6	0300	7	OK/3	55/A	32	63	
303	/84	33	34	6	0301	7	OK/1	229/F	93	41	
304.08	/84	37	38	6	0302	7	OK/2	23/F	89	31	
304.11	/84	39	40	6	0303	6	OK/2	0/E	86	54	
304.20	/84	41	42	6	0304	7	GD/2	84/A	47	63	
305.08	/84	85	86	6	0305	7	OK/3	0/F	93	43	
305.11	/84	43	44	6	0306	6	PR/2	0/F	88	62	
305.18	/84	45	46	6	0307	7	PR/3	240/F	77	41	
305.19	/84	47	48	6	0308	7	GD/3	0/A	55	46	
306.99	/84	ND			0309	BAD	TAPE				
306.17	/84	49	50	6	0310	7	OK/2	35/K	66	31	
306.19	/84	51	52	6	0311	7	GD/1.5	0/A	48	78	
307	/84	ND		NO TAPE							
308	/84	53	54	6	0312	7	PR/3	12/A	85	31	
309	/84	55	56	6	0313	7	PR/3	0/E	92	44	
310	/84	57	58	6	0314	7	PR/3	157/H	96	37	
311	/84	59	60	6	0315	7	PR/3	189/F	93	44	
312	/84	61	62	6	0316	7	OK/3	0/A?	47	31	
313	/84	63	64	6	0317	7	OK/3	0/E	55	34	
314	/84	65	66	6	0318	7	OK/3	0/A	63	41	
315	/84	67	68	6	0319	7	OK/2	170/B	73	40	
316	/84	ND			0320	BAD	TAPE				
317	/84	69	70	6	0321	7	PR/3	0/F	92	40	
318	/84	ND			0322	BAD	TAPE				
319	/84	ND		NO TAPE							
320	/84	71	72	6	0323	7	OK/1.5	0/M	46	33	
321	/84	73	74	6	0324	7	PR/3	316/A	54	25	
322	/84	75	76	6	0325	7	?/1	>512/F	67	23	
323	/84	77	78	6	0326	7	OK/1.5	0/A	71	21	
324	/84	79	80	6	0327	7	OK/2	0/A	82	13	
325	/84	81	82	6	0328	7	PR/3	31/E	92	14	
326	/84	83	84	6	0329	7	PR/3	35/F	96	23	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
327	/84	87	88	6	0330	7	OK/3	192/F	93	29	
328	/84	89	90	6	0331	7	OK/3	0/F	46	21	
329	/84	91	92	6	0332	7	PR/3	0/A	54	26	
330	/84	93	94	6	0333	7	GD/2	0/A	63	26	
331	/84	95	96	6	0334	7	OK/2	122/A	72	45	
332	/84	97	98	6	0335	7	OK/3	463/F	82	43	
333	/84	99	100	6	0336	7	PR/3	238/E	92	47	
334	/84	101	102	6	0337	7	OK/1.5	184/?	31	25	
335	/84	103	104	6	0338	7	GD/1.5	63/A	38	45	
336	/84	ND		NO TAPE							
337	/84	105	106	6	0339	7	PR/1.5	298/I	79	17	
337	/84	107	108	6	0340	6	PR/3	58/A	43	18	
338	/84	109	110	6	0341	7	OK/1.5	0/A	62	27	
339	/84	111	112	6	0342	7	GD/2	25/A	72	21	
340	/84	ND		NO TAPE							
341	/84	ND		NO TAPE							
342	/84	ND		NO TAPE							
343	/84	113	114	6	0343	7	GD/3	83/A	38	19	
344.20	/84	115	116	6	0344	7	OK/3	60/A	46	34	
344.22	/84	1	2	7	0345	6	OK/3	0/F	92	27	
345	/84	3	4	7	0346	7	GD/3	>512/?	83	28	
346	/84	5	6	7	0347	7	GD/3	18/E	63	27	
347	/84	ND			0348	BAD	TAPE				
348	/84	7	8	7	0349	7	GD/3	>512/?	81	24	
349	/84	9	10	7	0350	7	OK/3	58/E	92	18	
350	/84	ND			0351	BAD	TAPE				
351	/84	ND			0352	BAD	TAPE				
352	/84	11	12	7	0353	7	GD/3	58/A	45	43	
353.08	/84	13	14	7	0354	7	0/1	0/E	91	26	
353.18	/84	15	16	7	0355	7	GD/3	>512/?	82	17	
354	/84	17	18	7	0356	7	GD/3	>512/?	62	25	
355	/84	ND			0357	BAD	TAPE				
356	/84	ND			0358	BAD	TAPE				
357	/84	19	20	7	0359	7	0/1.5	?/?	92	18	
358.18	/84	21	22	7	0360	7	GD/3	98/E	97	22	
358.21	/84	23	24	7	0361	7	PR/2	>512/E	85	19	
359	/84	25	26	7	0362	7	GD/3	224/H	95	27	
360	/84	ND			0363	BAD	TAPE				
361.18	/84	27	28	7	0364	7	GD/3	>512/?	81	15	
361.19	/84	29	30	7	0365	7	GD/3	0/A	53	19	
362.18	/84	31	32	7	0366	7	GD/3	92/K	72	7	
362.19	/84	33	34	7	0367	7	GD/3	0/A	62	9	
363.17	/84	35	36	7	0368	9	GD/3	76/B	88	7	
363.19	/84	37	38	7	0369	7	GD/2	90/E	71	10	
364	/84	39	40	7	0370	9	GD/2	198/A?	28	23	
365.18	/84	41	42	7	0371	9	GD/2	74/?	33	23	
365.22	/84	43	44	7	0372	6	OK/3	20/F	93	18	
366.12	/84	45	46	7	0373	6	OK/3	0/E	76	20	
366.17	/84	47	48	7	0374	9	GD/2	91/F	94	15	

Sea Surface Temperature Atlas Catalogue Area P 1985

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
001	/85	49	50	7	0375	7	OK/3	72/F	95	18	
002	/85	51	52	7	0376	7	OK/3	?/?	91	23	
003	/85	53	54	7	0377	7	GD/3	?/?	83	15	
004	/85	55	56	7	0378	7	GD/3	?/?	71	14	
005	/85	57	58	7	0379	7	OK/3	30/E	70	11	
006	/85	59	60	7	0380	7	GD/3	5/B	80	18	
007	/85	61	62	7	0381	7	GD/3	174/B	92	17	
008	/85	ND		NO TAPE							
009	/85	63	64	7	0382	9	GD/3	0/F	95	14	
010	/85	65	66	7	0383	9	GD/3	225/F	92	16	
011	/85	67	68	7	0384	9	GD/3	?/?	88	16	
012	/85	69	70	7	0385	9	GD/3	?/?	78	16	
013	/85	71	72	7	0386	9	GD/3	0/A	64	12	
014	/85	ND			0387	BAD	TAPE				
015	/85	73	74	7	0388	9	GD/2	?/?	80	79	
016	/85	75	76	7	0389	9	GD/3	?/?	91	11	
017	/85	77	78	7	0390	9	GD/3	130/E	96	14	
018	/85	79	80	7	0391	9	GD/3	54/F	96	16	
019	/85	81	82	7	0392	9	OK/3	145/F	94	16	
020	/85	83	84	7	0393	9	OK/1.5	?/?	46	12	
021	/85	85	86	7	0394	9	GD/3	88/A	53	4	
022	/85	87	88	7	0395	9	GD/2	?/?	74	14	
023	/85	89	90	7	0396	9	OK/3	0/K	61	16	
024	/85	91	92	7	0397	9	GD/2	40/E	76	14	
025	/85	ND			0398	BAD	TAPE				
026	/85	93	94	7	0399	9	OK/2	0/E	94	10	
027	/85	95	96	7	0400	9	GD/3	0/F	97	8	
028	/85	97	98	7	0401	9	GD/2	329/F	95	14	
029	/85	99	100	7	0402	9	OK/3	265/F	92	15	
030	/85	101	102	7	0403	9	GD/3	14/A	31	22	
031.16	/85	103	104	7	0404	9	GD/3	?/?	73	10	
031.18	/85	105	106	7	0405	9	GD/1.5	10/E	57	9	
032	/85	107	108	7	0406	9	GD/1.5	50/K	66	12	
033	/85	109	110	7	0407	9	GD/1	28/J	48	16	
034	/85	ND			0408	BAD	TAPE				
035	/85	111	112	7	0409	9	OK/3	50/E	91	9	
036	/85	1	2	8	0410	9	OK/3	0/F	96	10	
037	/85	3	4	8	0411	9	OK/3	0/F	95	6	
038	/85	5	6	8	0412	9	OK/2	163/F	93	12	
039	/85	113	114	7	0413		GD/3	?/?	89	13	
040	/85	7	8	8	0414	9	OK/2	164/A	53	6	
041	/85	9	10	8	0415	9	OK/1.5	100/K	71	12	
042	/85	11	12	8	0416	9	GD/2	0/E	69	22	
043	/85	13	14	8	0417	9	OK/2	0/E	77	16	
044	/85	15	16	8	0418	9	OK/1.5	0/H	87	10	
045	/85	17	18	8	0419	9	OK/2	?/?	93	19	
046	/85	19	20	8	0420	9	GD/2	?/?	96	17	
047	/85	21	22	8	0421	9	GD/2	?/?	94	17	
048	/85	23	24	8	0422	9	PR/3	370/H	91	26	
049	/85	25	26	8	0423	9	PR/3	?/?	84	22	
050	/85	27	28	8	0424	9	OK/3	200/I	75	22	
051	/85	29	30	8	0425	9	OK/3	0/E	70	8	
052	/85	31	32	8	0426	9	OK/3	0/E	78	11	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
053	/85	33	34	8	0427	9	OK/3	0/H	85	15	
054	/85	ND			0428	BAD	TAPE				
055	/85	35	36	8	0429	9	OK/1.5	77/E	96	14	
056	/85	37	38	8	0430	9	OK/3	32/E	95	11	
057	/85	ND			0431	BAD	TAPE				
058	/85	39	40	8	0432	9	OK/1.5	?/?	87	12	
059	/85	41	42	8	0433	9	OK/3	23/E	60	13	
060	/85	43	44	8	0434	9	0K/3	?/?	66	13	
061	/85	45	46	8	0435	9	GD/2	67/I	55	4	
062	/85	47	48	8	0436	9	OK/3	112/E	82	21	
063	/85	49	50	8	0437	9	OK/3	125/E	88	9	
064	/85	51	52	8	0438	9	OK/1	>512/F	55	10	
065	/85	53	54	8	0439	9	PR/3	0/F	96	8	
066	/85	55	56	8	0440	9	OK/3	222/F	93	14	
067	/85	57	58	8	0441	9	OK/3	<512/F	90	16	
068	/85	59	60	8	0442	9	OK/2	59/A	57	22	
069	/85	61	62	8	0443	9	OK/2	?/?	73	20	
070.16	/85	63	64	8	0444	9	OK/3	200/J	62	23	
070.18	/85	65	66	8	0445	9	0K/3	73/A	72	30	
071	/85	67	68	8	0446	9	OK/3	>512/F	79	20	
072	/85	69	70	8	0447	9	GD/3	260/E	86	24	
073	/85	71	72	8	0448	9	GD/1	180/F	92	21	
074	/85	73	74	8	0449	9	OK/3	>512/A	97	18	
075	/85	ND		NO TAPE							
076	/85	75	76	8	0450	9	OK/3	380/F	91	22	
077	/85	77	78	8	0451	9	PR/3	?/?	87	12	
078.16	/85	79	80	8	0452	9	GD/3	>512/F	74	12	
078.18	/85	81	82	8	0453	9	GD/3	69/A	62	17	
079	/85	83	84	8	0454	9	GD/3	44/K	66	15	
080	/85	85	86	8	0455	9	OK/3	57/E	76	21	
081	/85	87	88	8	0456	9	GD/3	117/A	84	21	
082	/85	89	90	8	0457	9	OK/3	120/E	90	26	
083	/85	91	92	8	0458	9	OK/3	150/F	96	27	
084	/85	93	94	8	0459	9	OK/3	134/F	96	21	
085.17	/85	95	96	8	0461	9	OK/3	235/F	93	14	
085.18	/85	97	98	8	0460	9	GD/2	0/A	44	22	
086	/85	99	100	8	0462	9	GD/3	23/A	51	30	
087.16	/85	101	102	8	0463	9	GD/1	306/I	83	24	
087.18	/85	103	104	8	0464	9	GD/1.5	187/A	59	27	
088.06	/85	105	106	8	0465	9	GD/1.5	0/E	94	19	
088.18	/85	107	108	8	0466	9	OK/2	32/A	66	29	
089	/85	109	110	8	0467	9	GD/1	25/I	63	19	
090	/85	111	112	8	0468	9	GD/3	58/E	81	24	
091	/85	1	2	9	0469	9	GD/3	359/E	88	14	
092	/85	3	4	9	0470	9	OK/3	105/F	94	15	
093	/85	5	6	9	0471	9	GD/3	63/F	97	20	
094.17	/85	7	8	9	0472	9	OK/3	145/F	95	25	
094.18	/85	9	10	9	0473	9	GD/3	0/<E	41	23	
095	/85	11	12	9	0474	9	GD/2	400/F	91	32	
096	/85	13	14	9	0475	9	GD/3	?/?	87	28	
097	/85	15	16	9	0476	9	GD/3	0/A	63	28	
098	/85	17	18	9	0477	9	OK/1.5	103/K	65	27	
099	/85	19	20	9	0478	9	GD/3	170/E	79	19	
100	/85	21	22	9	0479	9	GD/3	0/A	85	24	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
101	/85	23	24	9	0480	9	GD/3	100/E	92	23	
101	/85	NA			0481	SAME	AS	ABOVE			
102	/85	ND			0482	9	BAD	TAPE			
103	/85	25	26	9	0483	9	OK/3	73/F	96	24	
104	/85	27	28	9	0484	9	GD/3	280/F	93	22	
105	/85	29	30	9	0485	9	GD/1.5	?/?	89	24	
106	/85	31	32	9	0486	9	GD/2	?/?	83	25	
107	/85	33	34	9	0487	9	GD/3	85/K	74	26	
108	/85	35	36	9	0488	9	GD/3	19/E	76	28	
109	/85	ND			0489	BAD	TAPE				
110	/85	37	38	9	0490	9	GD/3	60/E	90	39	
111	/85	39	40	9	0491	9	GD/3	54/F	96	42	
112	/85	41	42	9	0492	9	GD/3	53/F	97	45	
113	/85	43	44	9	0493	9	GD/2	120/F	94	40	
114	/85	45	46	9	0494	9	GD/2	?/?	91	40	
115	/85	47	48	9	0495	9	GD/2	340/E	88	40	
116	/85	49	50	9	0496	9	GD/3	154/K	77	32	
117	/85	51	52	9	0497	9	GD/3	0/K	62	26	
118	/85	53	54	9	0498	9	GD/3	0/E	80	34	
119	/85	ND			0499	BAD	TAPE				
120	/85	55	56	9	0500	9	GD/3	0/E	93	38	
121	/85	57	58	9	0501	9	GD/3	68/E	78	20	
122	/85	59	60	9	0502	9	GD/3	0/F	95	31	
123	/85	61	62	9	0503	9	OK/1.5	282/F	93	38	
124	/85	63	64	9	0504	9	GD/3	0/A	32	48	
125	/85	65	66	9	0505	9	GD/3	184/K	80	32	
126	/85	67	68	9	0506	9	GD/3	0/E	69	37	
127	/85	69	70	9	0507	9	GD/3	223/E	77	34	
128	/85	71	72	9	0508	9	GD/3	?/?	84	32	
129	/85	73	74	9	0509	9	GD/3	65/E	91	30	
130	/85	75	76	9	0510	9	GD/3	302/E	97	34	
131	/85	77	78	9	0511	9	GD/3	42/F	96	39	
132	/85	79	80	9	0512	9	GD/3	121/F	94	35	
133	/85	81	82	9	0513	9	GD/3	?/?	91	37	
134	/85	83	84	9	0514	9	GD/1.5	250/K	83	39	
135.16	/85	85	86	9	0515	9	GD/2	125/K	72	30	
135.18	/85	87	88	9	0516	9	GD/3	0/E	65	49	
136	/85	89	90	9	0517	9	GD/3	51/A	74	37	
137	/85	91	92	9	0518	9	GD/2	104/E	81	33	
138	/85	93	94	9	0519	9	GD/1	0/E	38	45	
139	/85	95	96	9	0520	9	GD/3	0/E	94	54	
140	/85	97	98	9	0521	9	GD/2	91/F	97	63	
141	/85	99	100	9	0522	9	GD/1.5	40/F	95	67	
142	/85	101	102	9	0523	9	GD/1.5	262/F	92	60	
143	/85	103	104	9	0524	9	GD/3	?/?	87	60	
144	/85	105	106	9	0525	9	GD/1	170/K	78	50	
145	/85	107	108	9	0526	9	GD/3	170/K	66	40	
146	/85	109	110	9	0527	9	GD/3	50/E	78	43	
147	/85	111	112	9	0528	9	GD/3	90/E	85	49	
148	/85	1	2	10	0529	9	GD/3	160/F	92	43	
149	/85	3	4	10	0530	9	OK/3	0/F	97	43	
150	/85	5	6	10	0531	9	OK/3	0/F	96	41	
151	/85	7	8	10	0532	9	OK/3	165/F	93	53	
152	/85	9	10	10	0533	9	OK/2	450/F	87	45	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
153.16	/85	11	12	10	0534	9	GD/2	260/K	81	44	
153.18	/85	13	14	10	0535	9	GD/3	10/A	59	44	
154	/85	15	16	10	0536	9	OK/3	?/?	70	52	
155	/85	17	18	10	0537	9	GD/3	0/A	75	54	
156	/85	19	20	10	0538	9	OK/1.5	45/E	82	50	
157	/85	21	22	10	0539	9	OK/3	210/E	88	48	
158	/85	23	24	10	0540	9	OK/3	10/E	94	61	
159	/85	25	26	10	0541	9	OK/3	20/F	96	60	
160	/85	27	28	10	0542	9	PR/3	120/F	84	54	
161	/85	29	30	10	0543	9	OK/3	>512/?	90	54	
162	/85	31	32	10	0544	9	OK/3	313/K	84	50	
163	/85	33	34	10	0545	9	OK/3	?/?	75	54	
164	/85	35	36	10	0546	9	OK/3	?/?	71	51	
165	/85	37	38	10	0547	9	GD/2	150/K	47	36	
166	/85	39	40	10	0548	9	OK/3	0/E	62	66	
167	/85	41	42	10	0549	9	OK/3	0/E	91	55	
168	/85	43	44	10	0550	6	PR/3	170/F	88	49	
169	/85	45	46	10	0551	9	OK/2	65/F	95	58	
170	/85	47	48	10	0552	9	OK/1.5	307/E	90	54	
171	/85	49	50	10	0553	9	PR/3	?/?	85	57	
172	/85	51	52	10	0554	9	PR/3	?/?	80	63	
173	/85	53	54	10	0555	9	OK/3	0/A	68	68	
174	/85	55	56	10	0556	9	OK/3	0/A	76	57	
175	/85	57	58	10	0557	9	OK/3	94/E	83	62	
176	/85	59	60	10	0558	9	PR/3	34/E	89	70	
177	/85	61	62	10	0559	9	OK/3	0/E	94	73	
178	/85	63	64	10	0560	9	PR/1.5	22/F	95	61	
179	/85	65	66	10	0561	9	PR/3	118/F	93	64	
180	/85	67	68	10	0562	9	PR/1.5	364/F	89	61	
181	/85	69	70	10	0563	9	PR/3	?/?	80	52	
182	/85	71	72	10	0564	9	PR/2	150/I	73	64	
183	/85	73	74	10	0565	9	OK/2	0/I	59	72	
184	/85	75	76	10	0566	9	PR/3	0/E	80	63	
185	/85	77	78	10	0567	9	PR/3	0/F	86	71	
186	/85	79	80	10	0568	9	PR/3	31/E	92	70	
187	/85	81	82	10	0569	9	OK/3	0/F	96	68	
188	/85	83	84	10	0570	9	PR/1.5	14/F	94	59	
189	/85	85	86	10	0571	9	PR/3	?/?	91	67	
190	/85	87	88	10	0572	9	OK/3	0/A	54	71	
191	/85	89	90	10	0573	9	PR/3	?/?	77	80	
192	/85	91	92	10	0574	9	PR/2	62/I	65	64	
193	/85	93	94	10	0575	9	OK/3	53/E	77	66	
194	/85	95	96	10	0576	9	PR/3	50/E	84	63	
195	/85	97	98	10	0577	9	PR/3	10/E	90	61	
196	/85	99	100	10	0578	9	PR/3	162/F	95	66	
197	/85	101	102	10	0579	9	PR/3	?/?	95	70	
198	/85	103	104	10	0580	9	OK/3	170/F	92	79	
199	/85	105	106	10	0581	9	OK/3	?/?	88	71	
200	/85	107	108	10	0582	9	OK/3	?/?	79	56	
201	/85	109	110	10	0583	9	OK/3	110/I	69	50	
201	/85	NA			0584	SAME	AS	ABOVE			
202.16	/85	111	112	10	0585	9	OK/2	90/I	59	50	
202.18	/85	113	114	10	0586	9	PR/3	90/E	74	69	
203	/85	1	2	11	0587	9	OK/3	0/E	81	61	

Sea Surface Temperature Atlas Catalogue Area P 1985

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
204	/85	3	4	11	0588	9	OK/3	90/E	88	62	
205	/85	5	6	11	0589	9	PR/3	0/E	94	54	
206	/85	7	8	11	0590	9	PR/3	0/F	96	53	
207	/85	9	10	11	0591	9	OK/3	63/F	94	61	
208	/85	11	12	11	0592	9	0K/3	?/?	91	61	
209	/85	13	14	11	0593	9	PR/3	?/?	75	59	
210	/85	15	16	11	0594	9	GD/1.5	0/F	91	79	
211	/85	17	18	11	0595	9	OK/3	89/E	71	60	
212	/85	19	20	11	0596	9	OK/3	34/E	59	58	
213	/85	ND		NO TAPE							
214	/85	21	22	11	0597	9	OK/3	42/E	92	56	
215	/85	23	24	11	0598	9	OK/3	0/F	97	75	
216.17	/85	25	26	11	0599	9	GD/3	70/F	95	66	
216.18	/85	27	28	11	0600	9	GD/3	0/A	39	83	
217	/85	29	30	11	0601	9	GD/3	209/F	92	67	
218	/85	31	32	11	0602	9	GD/3	?/?	87	72	
219	/85	33	34	11	0603	9	GD/3	36/E	61	72	
220.16	/85	35	36	11	0604	9	GD/1.5	68/I	70	65	
220.18	/85	37	38	11	0605	9	GD/3	?/?	69	60	
221	/85	39	40	11	0606	9	GD/3	5/E	76	71	
222	/85	41	42	11	0607	9	GD/1.5	0/E	83	72	
223	/85	43	44	11	0608	9	GD/3	135/E	90	73	
224	/85	45	46	11	0609	9	GD/3	156/F	96	74	
225.17	/85	47	48	11	0610	9	GD/3	79/F	96	65	
225.19	/85	49	50	11	0611	9	GD/3	17/A	21	82	
226	/85	51	52	11	0612	9	GD/3	142/F	94	64	
227	/85	53	54	11	0613	9	GD/3	37/A	30	81	
228	/85	55	56	11	0614	9	GD/3	174/E	58	53	
229	/85	57	58	11	0615	9	GD/3	0/A	66	57	
230	/85	59	60	11	0616	9	GD/3	0/I	60	66	
231	/85	61	62	11	0617	9	GD/3	0/E	81	72	
232	/85	63	64	11	0618	9	GD/3	?/?	88	59	
233	/85	65	66	11	0619	9	OK/3	0/E	94	62	
234	/85	67	68	11	0620	9	GD/3	0/E	97	78	
235	/85	69	70	11	0621	9	GD/3	59/E	95	79	
236	/85	71	72	11	0622	9	GD/3	?/?	92	77	
237	/85	73	74	11	0623	9	GD/3	?/?	84	70	
238	/85	75	76	11	0624	9	GD/3	?/?	76	78	
239	/85	77	78	11	0625	9	GD/3	63/I	65	70	
240	/85	79	80	11	0626	9	GD/3	70/A	78	64	
241	/85	81	82	11	0627	9	GD/3	130/E	85	63	
242	/85	83	84	11	0628	9	GD/3	45/E	92	60	
243	/85	85	86	11	0629	9	GD/3	28/E	97	60	
244	/85	87	88	11	0630	9	GD/3	0/E	96	57	
245	/85	89	90	11	0631	9	GD/3	182/F	93	47	
246	/85	91	92	11	0632	9	GD/3	?/?	89	60	
247	/85	93	94	11	0633	9	GD/3	220/I	82	43	
248	/85	95	96	11	0634	9	GD/2	60/A	67	53	
249	/85	97	98	11	0635	9	GD/3	0/I	63	58	
250	/85	99	100	11	0636	9	GD/3	0/E	82	63	
251	/85	101	102	11	0637	9	GD/3	40/E	89	55	
252	/85	103	104	11	0638	9	GD/1	>512/E	54	63	
253	/85	ND		NO TAPE							
254	/85	ND		NO TAPE							

Sea Surface Temperature Atlas Catalogue Area P 1985

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
255	/85	ND		NO TAPE							
256	/85	ND		NO TAPE							
257	/85	105	106	11	0639	9	GD/3	17/E	64	54	
258	/85	107	108	11	0640	9	GD/3	0/A	72	71	
259	/85	ND		NO TAPE							
260	/85	ND		NO TAPE							
261	/85	109	110	11	0641	9	GD/3	0/F	93	67	
262.11	/85	111	112	11	0643	8	GD/1	>512/F	60	86	
262.17	/85	113	114	11	0642	9	GD/2	75/F	98	67	
263	/85	1	2	12	0644	9	GD/1.5	0/E	39	58	
264	/85	3	4	12	0645	9	GD/1.5	193/E	41	74	
265	/85	5	6	12	0646	9	GD/3	?/?	88	62	
266	/85	7	8	12	0647	9	GD/2	260/I	78	59	
267	/85	9	10	12	0648	9	GD/3	9/A	69	74	
268	/85	11	12	12	0649	9	GD/3	220/E	76	71	
269	/85	13	14	12	0650	9	GD/3	0/E	83	62	
270	/85	15	16	12	0651	9	GD/3	38/E	90	46	
271	/85	17	18	12	0652	9	GD/2	326/E	96	62	
272	/85	19	20	12	0653	9	GD/2	0/F	96	51	
273	/85	21	22	12	0654	9	GD/3	69/A	43	51	
274	/85	23	24	12	0655	9	GD/3	?/?	89	45	
275	/85	25	26	12	0656	9	GD/3	?/?	85	52	
276	/85	27	28	12	0657	9	GD/3	0/E	65	45	
277	/85	29	30	12	0658	9	GD/3	0/I	61	51	
278	/85	31	32	12	0659	9	GD/1.5	32/E	80	55	
279	/85	33	34	12	0660	9	GD/0	?/F	71	51	
280	/85	35	36	12	0661	9	GD/1	43/E	93	50	
281	/85	37	38	12	0662	9	GD/2	0/F	97	49	
282	/85	39	40	12	0663	9	GD/3	?/?	95	40	
283	/85	41	42	12	0664	9	GD/3	247/F	92	28	
284	/85	43	44	12	0665	9	GD/3	?/?	86	28	
285	/85	45	46	12	0666	9	GD/2	226/I	77	26	
286	/85	47	48	12	0667	9	GD/3	54/I	62	30	
287	/85	49	50	12	0668	9	GD/3	274/A	77	40	
288	/85	ND			0669	BAD	TAPE				
289	/85	51	52	12	0670	9	GD/2	24/E	91	35	
290	/85	53	54	12	0671	9	GD/2	16/F	96	46	
291	/85	55	56	12	0672	9	GD/3	22/F	96	49	
292	/85	57	58	12	0673	9	GD/3	?/?	93	37	
293	/85	ND		NO TAPE							
294	/85	59	60	12	0674	9	GD/3	28/E	59	40	
295	/85	61	62	12	0675	9	GD/3	111/E	66	46	
296.16	/85	63	64	12	0676A	9	GD/3	44/I	57	43	
296.18	/85	65	66	12	0676B	9	GD/2	20/A	39	78	
297	/85	67	68	12	0677	9	GD/3	0/E	81	48	
298	/85	69	70	12	0678	9	GD/2	269/E	88	37	
299	/85	71	72	12	0679	9	GD/2	270/F	94	39	
300	/85	73	74	12	0680	9	GD/2	55/F	96	44	
301	/85	75	76	12	0681	9	GD/2	22/A	31	31	
302	/85	77	78	12	0682	9	GD/2	0/A	37	43	
303	/85	79	80	12	0683	9	GD/2	?/?	84	34	
304	/85	81	82	12	0684	9	GD/3	21/E	63	44	
305	/85	83	84	12	0685	9	GD/2	108/M	53	34	
306	/85	85	86	12	0686	9	GD/3	35/E	78	66	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
307	/85	87	88	12	0687	9	GD/1	40/E	86	65	
308	/85	89	90	12	0688	9	GD/2	0/E	91	55	
309	/85	91	92	12	0689	9	GD/1.5	50/F	97	37	
310	/85	93	94	12	0690	9	GD/1	74/F	95	32	
311	/85	95	96	12	0691	9	GD/3	28/A	46	39	
312	/85	97	98	12	0692	9	GD/3	0/A	33	33	
313	/85	99	100	12	0693	9	GD/3	95/E	60	34	
314	/85	101	102	12	0694	9	GD/3	?/?	68	25	
315	/85	103	104	12	0695	9	GD/3	36/E	76	24	
316	/85	105	106	12	0696	9	GD/3	20/E	83	25	
317	/85	107	108	12	0697	9	GD/1.5	77/E	89	15	
318	/85	109	110	12	0698	9	GD/3	20/E	95	28	
319	/85	111	112	12	0699	9	GD/3	18/F	96	22	
320	/85	113	114	12	0700	9	GD/2	160/F	93	25	
321	/85	115	116	12	0701	9	GD/3	150/A	50	16	
322	/85	117	118	12	0702	9	GD/3	0/A	58	32	
323	/85	1	2	13	0703	9	GD/1.5	?/M	53	4	
324	/85	3	4	13	0704	9	GD/3	0/J	57	23	
325	/85	5	6	13	0705	9	GD/2	89/E	63	28	
326	/85	7	8	13	0706	9	GD/3	8/E	87	14	
327	/85	9	10	13	0707	9	GD/2	20/E	93	21	
328	/85	11	12	13	0708	9	GD/1.5	27/F	96	22	
329	/85	13	14	13	0709	9	GD/3	40/F	94	25	
330	/85	15	16	13	0710	9	GD/2	308/F	91	22	
331	/85	17	18	13	0711	9	GD/2	?/F	86	19	
332	/85	19	20	13	0712	9	GD/2	184/I	77	19	
333	/85	21	22	13	0713	9	GD/2	0/K	64	18	
334	/85	ND		NO TAPE							
335	/85	23	24	13	0714	9	GD/3	0/E	85	31	
336	/85	25	26	13	0715	9	GD/3	100/H	91	18	
337	/85	27	28	13	0716	9	GD/1.5	126/F	96	12	
338	/85	29	30	13	0717	9	GD/1	233/E	95	19	
339	/85	31	32	13	0718	9	GD/1.5	188/F	92	27	
340	/85	33	34	13	0719A	9	GD/1	403/F	54	21	
341	/85	35	36	13	0719B	9	GD/3	47/A	35	21	
342	/85	37	38	13	0720	9	GD/2	8/E	68	16	
343	/85	39	40	13	0721A	9	GD/1	0/K	57	15	
344	/85	41	42	13	0721B	9	GD/2	260/A	43	35	
345	/85	43	44	13	0722A	9	GD/2	74/E	54	24	
346	/85	45	46	13	0722B	9	GD/1	41/E	79	27	
347	/85	47	48	13	0723	9	GD/3	25/F	96	21	
348	/85	49	50	13	0724	9	GD/1.5	263/E	94	17	
349	/85	51	52	13	0725	9	GD/3	386/F	90	12	
350	/85	53	54	13	0726	9	GD/2	?/?	85	21	
351	/85	55	56	13	0727	9	GD/2	140/K	68	25	
352	/85	57	58	13	0728	9	OK/1.5	20/K	64	17	
353	/85	59	60	13	0729	9	GD/3	55/E	80	9	
354	/85	61	62	13	0730	9	GD/3	10/E	87	16	
355	/85	63	64	13	0731	9	GD/1	300/F	70	11	
356	/85	65	66	13	0732	9	GD/3	135/F	94	10	
357	/85	67	68	13	0733	9	OK/2	16/F	95	23	
358	/85	69	70	13	0734	9	GD/3	124/A	48	16	
359	/85	71	72	13	0735	9	GD/1.5	?/?	87	23	
360	/85	73	74	13	0736	9	GD/2	?/?	79	9	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
361	/85	75	76	13	0737	9	GD/1.5	?/?	68	15	
362	/85	77	78	13	0738	9	GD/2	54/E	78	20	
363	/85	79	80	13	0739	9	GD/3	77/E	85	16	
364	/85	81	82	13	0740	9	GD/3	208/H	92	15	
365	/85	83	84	13	0747	9	OK/3	252/F	97	22	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
001	/86	85	86	13	0748	9	GD/3	?/?	96	23	
002	/86	87	88	13	0749	9	GD/1.5	210/F	93	17	
003	/86	89	90	13	0750	9	OK/1.5	?/?	89	23	
004	/86	91	92	13	0751	9	GD/3	39/E	60	13	
005	/86	93	94	13	0752	9	GD/3	?/?	68	7	
006	/86	95	96	13	0753	9	GD/1	40/I	61	11	
007	/86	97	98	13	0754	9	GD/3	45/A	83	12	
008	/86	99	100	13	0755	9	GD/1.5	150/E	89	8	
009	/86	101	102	13	0756	9	GD/1.5	150/E	95	15	
010	/86	103	104	13	0757	9	GD/2	10/F	97	25	
011	/86	105	106	13	0758	9	GD/1.5	355/F	95	15	
012	/86	107	108	13	0759	9	GD/3	296/F	91	17	
013	/86	109	110	13	0760	9	GD/3	?/?	86	24	
014	/86	111	112	13	0761	9	GD/1	135/K	78	18	
015	/86	1	2	14	0762	9	GD/1	?/?	65	11	
016	/86	3	4	14	0763	9	GD/2	137/A	80	12	
017	/86	5	6	14	0764	9	GD/2	27/E	87	21	
018	/86	7	8	14	0765	9	GD/3	216/E	93	19	
019	/86	9	10	14	0766	9	OK/3	72/E	98	26	
020	/86	11	12	14	0767	9	GD/1.5	258/I	95	20	
021	/86	13	14	14	0768	9	GD/3	?/?	92	13	
022	/86	15	16	14	0769	9	GD/1.5	?/?	89	14	
023	/86	17	18	14	0770	9	GD/3	0/E	62	12	
024	/86	19	20	14	0771	9	GD/1.5	340/J	68	9	
025	/86	21	22	14	0772	9	GD/1.5	55/A	77	6	
026	/86	23	24	14	0773	9	GD/1	370/E	84	16	
027	/86	25	26	14	0774	9	OK/1	?/?	91	17	
028	/86	27	28	14	0775	9	GD/1	?/?	97	22	
029	/86	29	30	14	0776	9	GD/1.5	0/F	96	21	
030	/86	31	32	14	0777	9	GD/3	230/E	94	19	
031	/86	33	34	14	0778	9	GD/3	?/?	90	14	
032	/86	35	36	14	0779	9	GD/3	?/?	84	13	
033	/86	37	38	14	0780	9	GD/3	310/J	75	6	
034	/86	39	40	14	0781	9	GD/3	0/E	74	9	
035	/86	41	42	14	0782	9	GD/3	0/E	81	9	
036	/86	43	44	14	0783	9	GD/1.5	245/E	88	6	
037	/86	45	46	14	0784	9	OK/3	114/F	95	13	
038	/86	47	48	14	0785	9	GD/2	101/A	20	13	
039.17	/86	49	50	14	0786B	9	GD/1	?/A	76	10	
039.17	/86	51	52	14	0786A	9	GD/1	?/E	69	4	
040	/86	53	54	14	0787	9	GD/3	283/F	91	21	
041	/86	55	56	14	0788	9	GD/3	?/?	86	19	
042	/86	57	58	14	0789	9	GD/1.5	221/J	78	16	
043	/86	59	60	14	0790	9	GD/1.5	39/J	64	17	
044	/86	61	62	14	0791	9	GD/3	117/A	74	9	
045	/86	63	64	14	0792	9	GD/2	45/E	56	10	
046	/86	65	66	14	0793	9	GD/1.5	240/E	92	13	
047	/86	67	68	14	0794	9	GD/1.5	48/E	97	11	
048	/86	69	70	14	0795	9	GD/3	0/A	36	14	
049	/86	71	72	14	0796	9	GD/3	211/F	92	17	
050	/86	73	74	14	0797	9	GD/3	?/?	87	24	
051	/86	75	76	14	0798	9	GD/3	206/I	80	25	
052	/86	77	78	14	0799	9	GD/2	100/I	66	22	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
053	/86	79	80	14	0800	9	GD/3	107/E	71	15	
054	/86	81	82	14	0801	9	GD/2	87/E	79	13	
055	/86	ND			0802	BAD	TAPE				
056	/86	83	84	14	0803	9	GD/3	171/E	95	13	
057	/86	85	86	14	0804	9	GD/3	274/E	96	12	
058	/86	87	88	14	0805	9	GD/1.5	196/F	93	21	
059	/86	89	90	14	0806	9	GD/3	?/?	89	26	
060	/86	91	92	14	0807	9	GD/1.5	?/?	83	12	
061	/86	93	94	14	0808	9	GD/1.5	320/I	72	12	
062	/86	95	96	14	0809	9	GD/1.5	0/I	62	16	
063	/86	97	98	14	0810	9	GD/3	0/E	76	24	
064	/86	99	100	14	0811	9	GD/3	125/E	87	19	
065	/86	101	102	14	0812	9	GD/3	42/F	93	16	
066	/86	103	104	14	0813	9	GD/3	0/E	97	25	
067	/86	105	106	14	0814	9	GD/1.5	200/F	94	16	
068	/86	107	108	14	0815	9	GD/1.5	268/F	91	12	
069	/86	109	110	14	0816	9	GD/3	?/?	84	11	
070	/86	111	112	14	0817	9	GD/3	260/A	57	18	
071	/86	1	2	15	0818	9	GD/3	182/J	62	8	
072.16	/86	3	4	15	0819	9	GD/3	0/J	48	14	
072.18	/86	5	6	15	0820	9	GD/3	37/E	72	17	
073	/86	7	8	15	0821	9	GD/3	65/H	81	8	
074	/86	9	10	15	0822	9	GD/3	72/E	90	22	
075	/86	11	12	15	0823	9	GD/3	0/F	96	16	
076	/86	13	14	15	0824	9	GD/3	133/F	95	23	
077	/86	15	16	15	0825	9	GD/3	262/F	92	25	
078	/86	17	18	15	0826	9	OK/1.5	407/F	88	25	
079	/86	19	20	15	0827	9	GD/3	243/I	80	14	
080.16	/86	21	22	15	0828	9	GD/3	83/I	68	10	
080.18	/86	23	24	15	0829	9	GD/3	90/A	62	16	
081	/86	25	26	15	0830	9	GD/2	0/A	69	25	
082	/86	27	28	15	0831	9	GD/2	25/E	78	29	
083	/86	29	30	15	0832	9	GD/3	119/E	88	27	
084	/86	31	32	15	0833	9	GD/3	74/F	94	20	
085	/86	33	34	15	0834	9	GD/3	?/?	96	26	
086	/86	35	36	15	0835	9	GD/1.5	270/E	93	28	
087	/86	37	38	15	0836	9	OK/3	?/?	89	23	
088	/86	39	40	15	0837	9	GD/3	73/A	52	33	
089.16	/86	41	42	15	0838	9	OK/3	?/?	70	29	
089.18	/86	43	44	15	0839	9	GD/3	168/A	59	40	
090.16	/86	45	46	15	0840	9	GD/3	314/J	57	17	
090.18	/86	47	48	15	0841	9	GD/3	73/A	68	36	
091	/86	49	50	15	0842	9	GD/3	0/E	76	41	
092	/86	ND		NO TAPE							
093	/86	51	52	15	0843	9	GD/3	163/F	93	25	
094	/86	53	54	15	0844	9	GD/3	0/E	97	29	
095	/86	55	56	15	0845	9	GD/1.5	23/F	94	38	
096	/86	57	58	15	0846	9	GD/2	380/E	87	41	
097	/86	59	60	15	0847	9	GD/2	?/?	86	37	
098	/86	61	62	15	0848	9	GD/1.5	168/K	75	36	
099	/86	63	64	15	0849	9	GD/1.5	22/K	66	35	
100	/86	65	66	15	0850	9	GD/1	40/A	73	28	
101	/86	67	68	15	0851	9	GD/3	145/E	82	38	
102	/86	69	70	15	0852	9	GD/3	21/E	91	59	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
103	/86	ND		NO TAPE							
104	/86	71	72	15	0853	9	GD/3	41/F	95	50	
105	/86	73	74	15	0854	9	GD/1.5	416/E	29	51	
106	/86	75	76	15	0855	9	GD/2	152/A	35	60	
107	/86	77	78	15	0856	9	GD/3	?/?	76	34	
108	/86	79	80	15	0857	9	GD/1	86/K	68	31	
109	/86	81	82	15	0858	9	GD/1.5	0/E	70	44	
110	/86	83	84	15	0859	9	GD/2	65/E	79	45	
111	/86	85	86	15	0860	9	GD/2	143/E	89	34	
112	/86	87	88	15	0861	9	GD/3	286/F	95	48	
113	/86	89	90	15	0862	9	GD/1	44/F	66	65	
114	/86	91	92	15	0863	9	GD/3	103/F	94	55	
115	/86	93	94	15	0864	9	GD/1.5	351/F	91	60	
116	/86	95	96	15	0865	9	GD/3	?/?	83	56	
117	/86	97	98	15	0866	9	GD/1.5	170/I	73	51	
118	/86	99	100	15	0867	9	GD/1	0/I	60	25	
119	/86	101	102	15	0868	9	GD/3	240/E	76	52	
120	/86	103	104	15	0869	9	GD/1.5	73/E	87	46	
121	/86	105	106	15	0870	9	GD/1.5	62/E	94	36	
122	/86	107	108	15	0871	9	GD/3	48/F	97	43	
123	/86	109	110	15	0872	9	GD/2	86/F	95	46	
124	/86	111	112	15	0873	9	GD/2	255/F	92	45	
125	/86	1	2	16	0874	9	GD/3	?/?	87	35	
126.17	/86	3	4	16	0875A	9	GD/3	?/?	60	46	
126.18	/86	5	6	16	0877	9	GD/3	0/E	57	51	
127.16	/86	7	8	16	0875B	9	GD/3	36/I	62	48	
127.18	/86	9	10	16	0876	9	GD/3	42/E	72	51	
128	/86	11	12	16	0878	9	GD/3	51/E	79	46	
129	/86	13	14	16	0879	9	GD/3	37/E	86	46	
130	/86	15	16	16	0880	9	GD/2	14/E	59	49	
131	/86	17	18	16	0881	9	GD/2	0/E	98	44	
132	/86	19	20	16	0882	9	GD/2	0/E	96	43	
133	/86	21	22	16	0883	9	GD/3	289/F	93	59	
134.17	/86	23	24	16	0884	9	GD/3	382/F	89	72	
134.18	/86	25	26	16	0885	9	GD/3	0/A	55	80	
135.07	/86	27	28	16	0887	9	GD/1.5	43/F	90	64	
135.17	/86	29	30	16	0886	9	GD/3	?/?	80	66	
135.18	/86	31	32	16	0888	9	GD/3	0/E	62	75	
136.07	/86	33	34	16	0889	9	GD/1.5	100/F	86	62	
136.16	/86	35	36	16	0890	9	GD/3	232/I	72	63	
136.18	/86	37	38	16	0891	9	GD/3	38/E	70	68	
137.06	/86	39	40	16	0892	9	GD/1	0/F	87	49	
137.16	/86	41	42	16	0893	9	GD/2	90/J	57	48	
138	/86	43	44	16	0894	9	GD/3	0/E	84	45	
139	/86	45	46	16	0895	9	GD/3	85/E	90	54	
140	/86	47	48	16	0896	9	GD/3	146/E	96	55	
141	/86	49	50	16	0897	9	GD/1.5	11/E	97	52	
142	/86	51	52	16	0898	9	GD/3	156/F	94	56	
143	/86	53	54	16	0899	9	GD/3	323/F	91	43	
144	/86	55	56	16	0900	9	GD/3	?/?	80	57	
145	/86	57	58	16	0901	9	GD/3	176/I	75	48	
146.16	/86	59	60	16	0902	9	GD/3	225/J	64	36	
146.18	/86	61	62	16	0903	9	GD/3	43/E	74	52	
147.16	/86	63	64	16	0904	9	GD/2	137/K	50	39	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
147.18	/86	65	66	16	0905	9	GD/3	16/E	81	51	
148	/86	67	68	16	0906	9	GD/3	0/E	87	49	
149	/86	69	70	16	0907	9	GD/3	152/E	94	50	
150	/86	71	72	16	0908	9	GD/2	0/<E	35	42	
151	/86	73	74	16	0909	9	GD/2	108/F	95	40	
152	/86	75	76	16	0910	9	GD/3	289/F	91	48	
153	/86	77	78	16	0911	9	GD/3	?/?	87	48	
154	/86	79	80	16	0912	9	GD/2	27/E	65	55	
155	/86	81	82	16	0913	9	GD/3	143/E	72	45	
156	/86	83	84	16	0914	9	GD/3	57/E	79	49	
157	/86	85	86	16	0915	9	GD/3	42/E	85	53	
158	/86	87	88	16	0916	9	GD/3	60/E	92	53	
159	/86	89	90	16	0917	9	OK/1.5	77/I	97	46	
160	/86	91	92	16	0918	9	GD/3	0/F	96	43	
161	/86	93	94	16	0919	9	GD/2	265/F	93	39	
162	/86	95	96	16	0920	9	GD/3	?/E	89	32	
163	/86	97	98	16	0921	9	GD/3	55/E	62	51	
164	/86	99	100	16	0922	9	GD/3	122/I	72	64	
165	/86	101	102	16	0923	9	GD/1.5	0/E	66	54	
166	/86	103	104	16	0924	9	GD/3	57/E	83	67	
167	/86	105	106	16	0926	9	GD/3	61/E	89	59	
168	/86	107	108	16	0927	9	GD/3	?/?	92	54	
169	/86	ND		NO TAPE							
170	/86	109	110	16	0928	9	GD/1.5	97/F	94	56	
171	/86	111	112	16	0929	9	GD/2	329/F	90	53	
172.17	/86	1	2	17	0930	9	GD/3	?/?	84	52	
172.18	/86	3	4	17	0931	9	GD/3	25/E	57	51	
173	/86	5	6	17	0932	9	GD/3	?/?	72	51	
174	/86	7	8	17	0933	9	GD/3	0/E	72	61	
175	/86	9	10	17	0934	9	GD/2	30/E	80	58	
176	/86	11	12	17	0935	9	GD/3	0/E	87	59	
177	/86	13	14	17	0936	9	GD/1.5	16/E	93	65	
178	/86	15	16	17	0937	9	OK/1.5	0/E	97	67	
179	/86	17	18	17	0938	9	OK/3	32/F	95	53	
180	/86	19	20	17	0939	9	OK/3	55/A	47	41	
181	/86	21	22	17	0940	9	GD/3	8/A	54	49	
182	/86	23	24	17	0941	9	GD/3	20/E	62	55	
183	/86	25	26	17	0942	9	GD/2	41/E	70	39	
184	/86	27	28	17	0943	9	GD/3	55/E	77	57	
185	/86	29	30	17	0944	9	GD/3	96/E	84	71	
186	/86	31	32	17	0945	9	GD/3	226/E	90	64	
187	/86	33	34	17	0946	9	GD/3	24/E	96	63	
188	/86	35	36	17	0947	9	GD/2	0/E	95	53	
189	/86	37	38	17	0948	9	GD/3	0/A	43	65	
190	/86	39	40	17	0949	9	GD/3	?/?	88	47	
191	/86	41	42	17	0950	9	GD/3	0/A	59	46	
192	/86	43	44	17	0951	9	GD/3	107/A	67	61	
193	/86	45	46	17	0952	9	OK/3	0/E	75	66	
194	/86	47	48	17	0953	9	GD/3	0/E	80	73	
195	/86	49	50	17	0954	9	GD/2	104/E	88	79	
196	/86	51	52	17	0955	9	GD/2	19/E	94	73	
197	/86	53	54	17	0956	9	GD/3	0/E	96	80	
198	/86	55	56	17	0957	9	GD/3	208/F	93	73	
199	/86	57	58	17	0958	9	GD/1	333/F	56	81	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
200	/86	59	60	17	0959	9	GD/3	20/E	50	66	
201	/86	ND		NO TAPE							
202	/86	61	62	17	0960	9	GD/3	72/A	72	66	
203	/86	63	64	17	0961	9	GD/2	0/E	72	76	
204	/86	65	66	17	0962	9	GD/3	39/E	74	76	
205	/86	67	68	17	0963	9	GD/3	0/E	92	57	
206	/86	69	70	17	0964	9	OK/3	?/?	97	9	
207	/86	71	72	17	0965	9	GD/3	14/F	94	72	
208	/86	73	74	17	0966	9	GD/3	259/F	91	73	
209	/86	75	76	17	0967	9	GD/3	?/?	83	71	
210	/86	77	78	17	0968	9	GD/3	228/I	74	69	
211	/86	79	80	17	0969	9	GD/3	33/I	64	69	
212	/86	81	82	17	0970	9	GD/2	?/?	49	60	
213	/86	83	84	17	0971	9	GD/3	48/H	81	58	
214	/86	85	86	17	0972	9	GD/3	20/E	90	70	
215	/86	87	88	17	0973	9	GD/1.5	97/F	96	74	
216	/86	89	90	17	0974	9	GD/3	?/?	95	69	
217	/86	91	92	17	0975	9	GD/3	188/F	92	64	
218.17	/86	93	94	17	0976	9	GD/3	?/?	87	73	
218.18	/86	95	96	17	0977	9	GD/2	62/A	31	72	
219	/86	97	98	17	0978	9	GD/3	?/?	62	67	
220	/86	99	100	17	0979	9	GD/1.5	115/I	64	69	
221	/86	101	102	17	0980	9	GD/3	0/E	76	75	
222	/86	103	104	17	0981	9	GD/2	113/E	83	72	
223	/86	105	106	17	0982	9	GD/2	178/E	89	65	
224	/86	107	108	17	0983	9	GD/3	282/E	94	68	
225	/86	109	110	17	0984	9	GD/2	0/F	96	63	
226	/86	111	112	17	0985	9	GD/3	132/F	83	63	
227	/86	1	2	18	0986	9	OK/3	327/F	90	64	
228	/86	3	4	18	0987	9	OK/3	?/?	84	63	
229	/86	5	6	18	0988	9	GD/3	170/I	74	68	
230	/86	7	8	18	0989	9	GD/3	130/I	63	70	
231	/86	9	10	18	0990	9	GD/3	0/E	81	68	
232	/86	11	12	18	0991	9	GD/3	0/E	87	72	
233	/86	13	14	18	0992	9	GD/2	43/E	93	63	
234	/86	15	16	18	0993	9	GD/3	0/E	97	63	
235	/86	17	18	18	0994	9	GD/3	?/?	94	59	
236	/86	19	20	18	0995	9	OK/1.5	298/F	91	56	
237	/86	21	22	18	0996	9	GD/3	?/?	86	60	
238	/86	23	24	18	0997	9	GD/3	17/E	65	66	
239	/86	25	26	18	0998	9	GD/3	?/?	65	53	
240.16	/86	27	28	18	0999	9	GD/3	60/J	51	43	
240.18	/86	29	30	18	1000	9	GD/3	0/E	79	39	
241	/86	31	32	18	1001	9	OK/3	55/E	86	59	
242	/86	33	34	18	1002	9	OK/3	11/E	92	66	
243	/86	35	36	18	1003	9	GD/2	15/F	97	74	
244	/86	37	38	18	1004	9	GD/2	0/F	96	70	
245	/86	39	40	18	1005	9	GD/3	240/F	93	65	
246	/86	41	42	18	1006	9	GD/3	?/?	88	72	
247	/86	ND		NO TAPE							
248	/86	43	44	18	1007	9	GD/2	0/A	70	76	
249	/86	ND		NO TAPE							
250	/86	45	46	18	1008	9	GD/3	250/A	84	63	
251	/86	47	48	18	1009	9	GD/3	70/E	90	70	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
252	/86	49	50	18	1010	9	GD/1	?/E	72	21	
253	/86	51	52	18	1011	9	GD/3	62/F	96	57	
254	/86	53	54	18	1012	9	PR/1.5	88/F	94	54	
255	/86	55	56	18	1013	9	GD/3	?/F	91	58	
256	/86	57	58	18	1014	9	GD/1.5	0/A	61	54	
257.17	/86	59	60	18	1015	9	GD/2	97/K	75	58	
257.18	/86	61	62	18	1016	9	GD/3	73/A	68	59	
258	/86	63	64	18	1017	9	GD/3	30/A	75	54	
259	/86	65	66	18	1018	9	GD/3	0/E	82	56	
260	/86	67	68	18	1019	9	GD/2	0/E	88	60	
261	/86	69	70	18	1020	9	OK/2	26/E	93	46	
262	/86	71	72	18	1021	9	GD/2	70/F	97	58	
263	/86	73	74	18	1022	9	GD/3	138/F	95	48	
264	/86	75	76	18	1023	9	GD/3	335/F	92	56	
265	/86	77	78	18	1024	9	GD/3	?/F	87	58	
266	/86	ND		NO TAPE							
267	/86	79	80	18	1025	9	GD/1.5	0/K	63	48	
268	/86	81	82	18	1026	9	GD/2	259/A	80	50	
269	/86	83	84	18	1027	9	GD/3	155/E	86	59	
270	/86	85	86	18	1028	9	GD/1.5	110/I	84	55	
271	/86	87	88	18	1029	9	GD/3	?/A	98	58	
272	/86	89	90	18	1030	9	GD/3	148/F	94	58	
273	/86	91	92	18	1031	9	GD/1.5	190/F	93	53	
274	/86	93	94	18	1032	9	GD/3	246/E	57	50	
275	/86	95	96	18	1033	9	GD/3	?/?	64	50	
276	/86	97	98	18	1034	9	GD/1.5	?/?	71	42	
277	/86	99	100	18	1035	9	GD/2	202/E	77	39	
278	/86	101	102	18	1036	9	GD/2	115/E	84	32	
279	/86	103	104	18	1037	9	GD/3	260/F	90	38	
280	/86	105	106	18	1038	9	GD/2	95/A	33	40	
281	/86	107	108	18	1039	9	GD/1.5	0/F	97	51	
282	/86	109	110	18	1040	9	GD/2	136/F	94	43	
283	/86	111	112	18	1041	9	GD/3	248/E	51	32	
284	/86	1	2	19	1042	9	GD/2	0/E	61	42	
285	/86	3	4	19	1043	9	GD/2	108/A	68	35	
286	/86	5	6	19	1044	9	GD/1.5	114/I	61	41	
287	/86	7	8	19	1045	9	GD/2	67/E	82	35	
288	/86	9	10	19	1046	9	GD/2	35/E	88	31	
289	/86	11	12	19	1047	9	GD/3	136/E	94	40	
290	/86	13	14	19	1048	9	GD/1	0/E	80	47	
291	/86	15	16	19	1049	9	GD/3	240/I	95	39	
292	/86	17	18	19	1050	9	GD/3	322/F	91	37	
293.17	/86	19	20	19	1051	9	GD/3	?/?	86	43	
293.19	/86	21	22	19	1052	9	GD/3	0/A	59	51	
294	/86	23	24	19	1053	9	GD/3	176/I	77	34	
295	/86	25	26	19	1054	9	GD/2	0/E	73	40	
296	/86	27	28	19	1055	9	GD/3	?/?	79	34	
297	/86	29	30	19	1056	9	GD/2	170/E	86	31	
298	/86	31	32	19	1057	9	GD/3	217/E	92	32	
299	/86	33	34	19	1058	9	GD/1.5	73/F	97	32	
300	/86	35	36	19	1059	9	GD/1.5	0/F	95	28	
301	/86	37	38	19	1060	9	GD/1.5	292/E	92	20	
302	/86	39	40	19	1061	9	GD/3	18/A	56	38	
303	/86	41	42	19	1062	9	GD/3	195/A	63	25	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
304	/86	43	44	19	1063	9	GD/3	0/E	70	37	
305	/86	45	46	19	1064	9	GD/3	34/A	77	38	
306	/86	47	48	19	1065	9	GD/1.5	149/E	84	29	
307	/86	49	50	19	1066	9	GD/3	96/E	90	33	
308	/86	51	52	19	1067	9	GD/3	62/I	95	29	
309	/86	53	54	19	1068	9	OK/3	18/F	96	26	
310	/86	55	56	19	1069	9	GD/1.5	147/F	93	24	
311	/86	57	58	19	1070	9	GD/2	284/E	54	34	
312	/86	59	60	19	1071	9	GD/3	?/?	83	36	
313	/86	61	62	19	1072	9	GD/1	145/I	72	26	
314	/86	63	64	19	1073	9	GD/3	0/E	52	43	
315	/86	65	66	19	1074	9	GD/2	203/E	63	30	
316	/86	67	68	19	1075	9	GD/3	82/E	88	20	
317	/86	69	70	19	1076	9	GD/1.5	0/E	63	22	
318	/86	71	72	19	1077	9	GD/3	28/E	96	16	
319	/86	73	74	19	1078	9	GD/3	158/F	94	28	
320	/86	75	76	19	1079	9	GD/3	?/?	91	21	
321	/86	77	78	19	1080	9	GD/3	?/?	84	20	
322	/86	79	80	19	1081	9	GD/3	31/E	65	16	
323	/86	81	82	19	1082	9	GD/3	25/I	61	23	
324	/86	83	84	19	1083	9	GD/3	0/E	79	10	
325	/86	85	86	19	1084	9	GD/3	90/H	86	12	
326	/86	87	88	19	1085	9	GD/3	74/I	92	20	
327	/86	89	90	19	1086	9	GD/3	35/F	97	26	
328	/86	91	92	19	1087	9	GD/3	?/?	95	19	
329	/86	93	94	19	1088	9	GD/3	310/F	91	13	
330	/86	95	96	19	1089	9	GD/3	?/?	86	26	
331	/86	97	98	19	1090	9	GD/3	40/E	44	25	
332	/86	99	100	19	1091	9	GD/3	?/?	70	23	
333	/86	101	102	19	1092	9	GD/3	?/?	77	15	
334	/86	103	104	19	1093	9	GD/2	127/E	84	22	
335	/86	ND		NO TAPE							
336	/86	105	106	19	1094	9	GD/2	0/F	95	25	
337	/86	107	108	19	1095	9	GD/1.5	0/F	95	21	
338	/86	109	110	19	1096	9	OK/3	440/F	89	24	
339	/86	111	112	19	1097	9	GD/3	0/A	55	15	
340	/86	1	2	20	1098	9	GD/3	139/A	61	21	
341	/86	3	4	20	1099	9	GD/3	0/A	68	23	
342	/86	5	6	20	1100	9	GD/3	0/E	75	12	
343	/86	7	8	20	1101	9	GD/3	0/E	82	9	
344	/86	9	10	20	1102	9	GD/3	17/H	89	5	
345	/86	11	12	20	1103	9	GD/3	117/F	95	10	
346	/86	13	14	20	1104	9	OK/3	76/F	96	8	
347	/86	15	16	20	1105	9	GD/3	180/F	94	13	
348	/86	17	18	20	1106	9	GD/3	328/F	90	18	
349	/86	19	20	20	1107	9	GD/1.5	?/?	83	15	
350	/86	21	22	20	1108	9	GD/3	50/E	66	12	
351	/86	23	24	20	1109	9	GD/3	0/E	73	16	
352	/86	25	26	20	1110	9	GD/3	?/?	49	18	
353	/86	27	28	20	1111	9	GD/3	112/H	87	19	
354	/86	29	30	20	1112	9	GD/1.5	14/I	93	19	
355	/86	31	32	20	1113	9	OK/3	0/F	97	21	
356	/86	33	34	20	1114	9	GD/3	131/F	95	16	
357	/86	35	36	20	1115	9	PR/3	269/F	91	12	

JUL day	YR	IR no.	VIS no.	Vol	IA#	Sat	Nav. Conf.	Nav. Acc.	%D	% clr	Qual.
358	/86	37	38	20	1116	9	OK/3	174/E	58	20	
359	/86	39	40	20	1117	9	GD/3	337/I	77	16	
360	/86	41	42	20	1118	9	GD/3	?/?	72	18	
361	/86	43	44	20	1119	9	GD/3	74/E	79	13	
362	/86	45	46	20	1120	9	GD/3	0/E	76	19	
363	/86	47	48	20	1121	9	GD/3	207/E	92	17	
364	/86	49	50	20	1122	9	GD/2	16/F	97	10	
365	/86	51	52	20	1123	9	GD/3	57/F	96	16	

Appendix 3: Listing of file NAVERR: - navigation problems

IA NO.	CODE	DESCRIPTION
IA0003	TD(V)	Nadir correct, Lower Left correct, but top WDBII should be down 3 pixels and to the left 1
IA0004	URD	Nadir good, Lower Left and Upper Right good but Upper Right WBDII should come down 4 pixels
IA0005	URD(V)	Nadir correct, Left correct, but Right (Greenland) coastline should be moved down 2 pixels and moved to the right 2 pixels
IA0006	TD	Nadir correct, Lower Left good, top down 4 pixels
IA0007	LRU	All good ,except the Lower Right should move up 3 pixels
IA0008	LLU	All good, except the lower Left should move up 2 pixels
IA0009	CST	Baie Comeau coastline too far south
IA0011	CST	White Bay, Nfld coastline too far east Nadir correct, Lower Left within 1-2 pixels, but:
IA0011	TD	top (L and R) should move down 4-6 pixels
IA0012	TD	top (L and R) should move down 2 pixels
IA0013	TD	top (L and R) should move down 3 pixels
IA0014	URD	All good except Upper Right WDBII should be down 2 pixels
IA0016	TD	top (L and R) should move down 3-4 pixels
IA0017	TD	top (L and R) should move down 3-4 pixels
IA0018	TD	top (L and R) should move down 2-5 pixels
IA0019	TD	top (L and R) should move down 2-5 pixels
IA0020	AD	Nadir good but rest should move down 4 pixels
IA0021	TD	top (L and R) should move down 4 pixels
IA0022	UO	Nadir and Bottom good, Upper Left should move down 4, while the Upper Right should move up 2 pixels
IA0023	UO	Nadir and Bottom good, UL should be down 3, UR up 2
IA0024	TD(V)	UR should be down 3, UL should be down 1
IA0025	TD(V)	UR should be down 3, UL should be down 5
IA0026	TD	top should be down 4-6 pixels
IA0027	TD(V)	UR should be down 2, UL should be down 6
IA0028	S	Nadir good, Right should be up 2, UL down 4, and LL up 2
IA0029	TD	top should be down 4-6 pixels
IA0030	PU	LL should be up 2, and the UR up 4 pixels, rest good
IA0031	LO	UL should be down 2, LL should be up 2
IA0032	ULD	UL should be down 3
IA0033	TD	top should be down 6 pixels
IA0035	ULD	UL should be down 5 pixels
IA0036	ULD	UL should be down 3 pixels
IA0037	TD	top should be down 3 pixels
IA0038	PU/UO	the LL and UR should both move up 2, but the UL should be down 4 pixels
IA0039	TD(V)	top down 10, LL up 3 pixels
IA0040	PU/UO	the LL and UR should both move up 1, but UL down 2 pixels
IA0041	TD	top down 3-4 pixels
IA0042	URD	the upper right should be down 6 pixels
IA0043	TD(V)	top down 7, LL up 2 pixels
IA0044	LO	LL should be up 1, and UL down 3
IA0045	TD	UL top down 3 pixels, UR down 7 pixels
IA0046	UO	UL down 3, UR up 1 pixel
IA0047	TD	UL down 2, UR down 5 pixels
IA0048	TD(V)	UL down 5, UR down 3, LR up 1
IA0051	TD(V)	UL down 3, UR down 3, LL down 1
IA0052	UO(V)	UL up 2, UR down 2, LL down 1 pixel

IA NO.	CODE	DESCRIPTION
IA0054	TD	Top should be down 3 pixels
IA0055	TD(V)	top down 3, LL left 3
IA0057	TD(V)	top down 6, LL left 1
IA0058	TD	top down 3
IA0059	* BAD	tape read errors allow only the bottom 1600 lines to be processed; navigation is good for the bottom
IA0060	TD	top down 5 pixels
IA0061	* BAD	bad lines displace the image allowing good navigation at the bottom only - top should be up 10 pixels
IA0062	TD	UR down 5 pixels
IA0064	URD	UR down 4 pixels
IA0065	Q	clouds over lower image make navigation questionable there
IA0066	URD	UR should be down 3 pixels
IA0067	TD	UL down 2, UR down 4 pixels
IA0068	< >	Requires some form of horizontal yaw correction: UL should be 1pixel to the right, LL should be 2 pixels to the left.
IA0069	< >,TD	UR should be 1 pixel to right,LL should be 1 pixel to left. top down 2 pixels.
IA0070	TD	top down 3 pixels.
IA0072	TD	top down 3 pixels.
IA0073	TD +	UL down 1 pixel, UR down 3 pixels. Problem with ingest; top 1/4 of image is repeat of same line.
IA0074	TD	UL down 3 pixels, UR down 2 pixels.
IA0075	TD	UR should be down 2 pixels, but UL is good.
IA0076	*BAD,TD	Top should be down 15 (UL) to 20 (UR) pixels.
IA0078		Top left should be down 1,lower left should be 1 pixel to the left.
IA0079	< >	LL should be 1 pixel to the left, but elsewhere outline is good.
IA0080	*BAD	Scale badly compressed
IA0089	TD +	UL should come down [illegible] pixels,LL should be up 1,UR obscured.
IA0097		Top should be up 1 pixel.
IA0101	LSR	The left side should be 2 pixels to the right.
IA0106	TD	UL should be down 7 pixels, UR is obscured.
IA0116	TD	Top should come down 2 pixels.
IA0122	TD +	UL should be down 1, UR should be down 2,LL to come up 1.
IA0124	TD +	Top should be down 1 pixel,LL should be up 1 pixel.
IA0125	TD	UL should be down 3 pixels,UR could move 1 pixel left.
IA0127	TD	Top should come down 4 pixels
IA0128	TD	Top should come down 5 pixels
IA0129	TD	Top should come down 3 pixels
IA0132	TD + /8	UR should come down 6 pixels ,center should come down 1,and both lower corners should go up a pixel.
IA0133	TD	UL should come down 6 pixels, UR should come down 8 pixels.
IA0134	TD + /8	UL should come down 6 pixels, UR is obscured, LL should go up 1 pixel.
IA0135	TD	Top should come down 5 pixels.
IA0136	TD +	UL should come down 9 pixels,UR is obscured, LL should go pixel.
IA0138	TD	UL should come down 3 pixels, UR should come down 4 pixels.
IA0139	TD	Top should come down 5 pixels.
IA0140	??	-- no entry --
IA0141	TD	Top should come down 8 pixels.
IA0142	TD	Top should come down 4 pixels.

IA NO.	CODE	DESCRIPTION
IA0144	TD +	Top should come down 7 pixels,bottom corners should move 2 pixels vertically in opposite directions.
IA0145	RO	UR should come down 5 pixels, LR should come up pixels.
IA0146	TD +	UL should come down 6 pixels, UR should come down 7 pixels. may be slight scale compression.
IA0147	TD	UL should come down 6 pixels, UR should come down 5 pixels.
IA0148	TD	Top should come down 6 pixels.
IA0149	TD	Top should come down 4 pixels.
IA0150	TD +	UL should coem down 6 pixels, UR should come down 8 pixels and all but nadir and LL should move 1 pixel to the right.
IA0151	TD	UL should come down 5 pixels, UR should come down 6 pixels.
IA0154	TD	Top should come down 10 pixels.
IA0155	TD	Top should come down 10 pixels.
IA0156	TD + /6	UL should come down 10 pixels, UR is good, but left side should move 2 or 3 pixels to the right.
IA0157	Q	Clouds everywhere except Nfld.
IA0158	< >/6	Left side should move right up to 4 pixels, right side should move 1 or 2 pixels to the right.
IA0160	TD	Top should come down 5 pixels.
IA0161	TD	UL should come down 8 pixels, UR should come down 9 pixels.
IA0163	TD	UL should come down 6 pixels, UR should come down 12 pixels.
IA0164	TD	Top should come down 12 pixels.
IA0165	TD +	Top should come down 4 or 5 pixels, bottom should go up 1.
IA0166	TD	Top should come down 5 pixels.
IA0167	TD	Top should come down 6 pixels.
IA0168	< >/6	Left side should go 4 pixels to right; right side 1 pixel to the left
IA0169	TD	top down 5 pixels
IA0170	TD(V)	top down 5 pixels; and to the right 1 pixel
IA0171	TD	top down 8 pixels
IA0172	TD	top down 7 pixels
IA0173	TD	top down 6 pixels
IA0174	TD(V)	top down 5 pixels;and to the left 1 pixel
IA0175	TD	top down 5 pixels
IA0176	TD/LSR/6	top down 5 pixels;and the left side 4 to the right
IA0178	TD	top down 6 pixels
IA0179	TD	top down 6 pixels
IA0180	TD(V)	top down 6 pixels;and LL up 2 pixels
IA0181	TD	top down 7 pixels
IA0182	TD	top down 6 pixels
Ia0183	TD	top down 4 pixels
IA0185	TD	top down 5 pixels
IA0184	LSR	left side should move right 5 pixels
IA0188	TD	top down 5 pixels
IA0190	LSR/S/6	left side should move right 2 pixels; the LR should move 2 pixels to the right; and the UR should move 3 pixels up
IA0189	TD	top down 7 pixels
IA0191	TD	top down 5 pixels
IA0193	></6	left side should move 3 pixels to the right; right side should move 1 pixel to the left
IA0194	TD	top down 5 pixels
IA0195	TD	top down 8 pixels
IA0196	TD	top down 6 pixels

IA NO.	CODE	DESCRIPTION
IA0197	TD	top down 4 pixels
IA0198	TD	top down 6 pixels
IA0199	RSL/6	right side must move left 3 pixels
IA0200	TD	top down 3 pixels
IA0201	RSL	right side moves left 1-4 pixels
IA0202	LSR/6	left side must move right 5 pixels
IA0203	ULD	upper left must move down 3 pixels
IA0206	URD	upper right must move down 4 pixels
IA0207	ULD	upper left must move down 3 pixels
IA0211	ULD	upper left must move down 3 pixels
IA0213	TD	top down 6 pixels
IA0217	URU	upper right must move up 3 pixels
IA0218	URU/S/6	upper right must move up 3 pixels; upper left should move 3 pixels to the left
IA0219	URD	upper right should move down 3 pixels
IA0221	RSL/6	right side should move 3 pixels to the left
IA0223	*BAD TD	top down 15-40
IA0224	LSR/6	left side should move 4 pixels to the right.
IA0225	LSR/6	left side should move 3 or 4 pixels to the right, and top should come down 1 pixel.
IA0228	LSR/6	Left side should move 3 or 4 pixels to the right, and the left side should move down 3 pixels.
IA0229	LSR/6	Left top should move 4 pixels to the right, and the left side should move down 2 or 3 pixels.
IA0234	RSD	Right side should be 1 or 2 pixels down.
IA0236	TD	Upper left should come down 3 pixels, upper right should come down 4.
IA0237	URD	Upper right should come down 6 pixels.
IA0239	TD(V)	Upper left should come down 2 pixels, upper right should come down 5, and both should be 2 pixels to the right.
IA0256	TD	Upper left should come down 3 pixels,upper right should LSR/6 come down 6, and the left side should be 2 pixels to the right.
IA0260	URD(V)/6	Upper right should be down 3 pixels, and also 2 pixels to the left.
IA0264	URD	Upper right should come down 3 pixels.
IA0265	URD	Upper right should come down 5 pixels.
IA0267	LSR/6	Left side should be 3 pixels right, and the upper right RSD/6 should come down 6 pixels.
IA0269	LSU	Lower left should come up 5 pixels.
IA0270	LSR/6	Left side should be 2 or 3 pixels to the right, and the TD top should also come down 2 pixels.
IA0271	RSD	Right side should come down 1 or 2 pixels.
IA0276	S	Top should be down 4 or 5 pixels, top right and lower left should move 2 pixels to the left.
IA0278	LO	Top left should come down 2 pixels, while the lower left should move up 2 pixels.
IA0279	TD	Top should come down 2 pixels.
IA0282	TD +	Top should be 4 pixels lower, and the top left should be also be 4 pixels to the left
IA0286	TD	Top should come down 2 or 3 pixels.
IA0287	TD	Possible scale compression. Top should be down 10 pixels on each side, and the lower left should come up 3 pixels.
IA0288	TD	Top should come down 3 pixels

IA NO.	CODE	DESCRIPTION
IA0289	TD +/6	Top should come down 5 or 6 pixels, and the lower left should be 1 down and 3 to the right.
IA0290	TD	Top should be 7 pixels down.
IA0293	TD	Top should be down 5 pixels.
IA0294	RSL	Right side should move 2 pixels to the left.
IA0295	TBO	Top should be down 2 pixels while the lower left should move up 7 pixels
IA0297	TD	Top should come down 4 pixels.
IA0298	TD	Top right shouldbe 5 pixels down.
IA0300	TD +	Top left should come down 4 pixels, top right should move 5 pixels down and 2 to the right.
IA0303	LRO	Left side should move 2 or 3 pixels right, while the right side should be 2 pixels to the left.
IA0305	TBO	Top left should be down 2 pixels, the top right down 5, and both should be 2 pixels to the right, while the bottom should move up 1 pixel.
IA0306	LSR	Top left should be 6 pixels to the right, the lower left 4 pixels to the right.
IA0307	TD	Top should come down 8 pixels.
IA0312	TD	Top left should come down 8 pixels.
IA0313	TD +	Top should comedown 7 pixels and 1 pixel to the right.
IA0314	TBO	The top should be down 4 pixels, while the bottom should move up 5 pixels.
IA0315	TD	Top should come 6 pixels down.
IA0317	TD +	Top right should be down 5 and left 1 pixel, while the bottom should be 1 pixel up.
IA0318	TD	Top should come down 7 pixels.
IA0319		The top left should be 3 pixels down and 3 to the right.
IA0321	TBO	The top should be down 9 pixels, while the bottom should be up 5 pixels.
IA0323	TBO	Top right should be down 2 pixels while the lower right should be up 4 pixels.
IA0324	TD	Top should come down 10 pixels.
IA0326	TD +	Top should be down 3 pixels and 1 to the right.
IA0327	TD	Top left should be down 2, top right down 6 pixels.
IA0328	TD	Top should be down 8 or 9 pixels.
IA0329	TD +	Top should come 8 or 9 pixels down and 1 pixel each towards the center line.
IA0330	TD	Top should come down 5 or 6 pixels.
IA0331	TD	Top should be 5 pixels down.
IA0332	TD	Top right should be 6 pixels down.
IA0334	TD	Top right should come down 4 pixels
IA0336	TD	Top should be down 9 pixels.
IA0339	*BAD	Scale seems to be compressed.
IA0340	AD	Top should be down 12 pixels and the sides should be 2 pixels in towards the center line. The lower left also should be down 6 pixels, but the image center is good.
IA0341	TD	The top right should be 3 pixels down.
IA0344		Lower right should go up 5 pixels.
IA0345	><	Left side should move 2 pixels to the right, right side 3 left.
IA0350	TD	Top left should move down 4 pixels.
IA0354	*BAD	Scale is badly compressed: corners out by 30 or 40 pixels!
IA0359	*BAD	Extreme scale compression: top right should be down 50 pixels.

IA NO.	CODE	DESCRIPTION
IA0361	*BAD	Extreme scale compression: off 10 pixels either way on the same sub-image as the point of navigation
IA0372	LSR +	The left side should move 2 or 3 pixels to the right, and the top right should be 3 pixels up and 3 to the left.
IA0373	RSL	The lower right should be 4 pixels to the left, and the lower left should be up 2 pixels.
IA0375	RSU	Top right should be up 5 pixels.
IA0376	TBO	Top should move up 3 pixels while the lower left should be down 1 pixel.
IA0379	TBO	Top left should move up 4 pixels while the far lower left should be down 2 or 3 pixels.
IA0390	TBO	Top should down 2 pixels, while the lower left should be up 1.
IA0392	TD	Top should come 3 pixels down.
IA0399	TD	Upper right should come down 4 pixels.
IA0400	TD	Top should come down 2 pixels.
IA0402	TD><	Top should be down 4 pixels. The top left should be 1 pixel to the right, and the top right should be 1 pixel to the left.
IA0404	TD	Top left should be down 3 pixels.
IA0409	TD,RSL	Top left should be 4 pixels down,the top right 6 down and the right side should be 1 pixel to the left.
IA0410	TD	The top should be 5 pixels lower.
IA0411	TD	The top should be 6 or 7 pixels lower.
IA0412	TD	The top right should come down 7 pixels.
IA0414	TD +	The upper right should be 6 pixels lower, and the lower left should be 2 pixels to the left
IA0415	LO	Top left should be down 2 pixels, while the lower left should be up 4 pixels.
IA0417	TD	The top right should be 3 pixels lower.
IA0418	RSL	The lower right should be 3 pixels to the left.
IA0419	TD	The top right should be 4 pixels lower and 1 to the left.
IA0422	TD	The top should come down 9 or 10 pixels.
IA0423	TD	The top should come down 9 or 10 pixels.
IA0424	TD +	The top left should come down 3 pixels, while the lower left should move up 3 pixels.
IA0425	TD +	The top should move down 4 pixels, while the lower left should be up 2 pixels and 1 to the left.
IA0426	TD +	The top right should be down 4 pixels and 1 to the right, and the lower areas should be up 1 or 2 pixels.
IA0427	TD +	The top should be down 2 or 3 pixels, and the lower right should be up 3 pixels and 2 to the left.
IA0429	TD	The top should come down 5 pixels.
IA0430	TD	The top should come down 5 pixels.
IA0432	TD,RSL	The top should be 2 or 3 pixels lower, and the top right should be 3 pixels to the left.
IA0433	TD +	The top should come down 5 pixels, and the bottom should be up 2 pixels.
IA0434	TD +	The top should come down 4 or 5 pixels, while the lower left should be up 2 pixels.
IA0436	TD,LSR	The top should be down 6 pixels, and the left side should be 1 or 2 pixels to the right.
IA0437	TD	The top should come down 6 pixels.
IA0439	TD	The top should come down 7 pixels.
IA0440	TD	The top should come down 5 or 6 pixels.
IA0441	TD	The top should come down 6 pixels.

IA NO.	CODE	DESCRIPTION
IA0442	TD	The top should come down 5 pixels.
IA0443	TD +	The top should be 5 pixels lower, while the bottom should move up 3 pixels.
IA0444		The bottom should be up 4 pixels (nav. at Greenland).
IA0445	TD	The top should come down 4 pixels.
IA0446	TD +	The top should be 6 pixels lower, while the lower left should be down 2 and the lower right up 1 pixel.
IA0447	TD +	The top should come down 3 pixels, and the lower left should move up 1.
IA0449	TD	The top should come down 3 pixels, and the top left should be 1 pixel to the right.
IA0450	TD	The top should be 2 pixels lower and 1 to the left.
IA0451	TD	The top should be 9 pixels lower.
IA0452	TD +	The top should be 2 pixels lower and the top left should be 3 pixels to the left.
IA0453	LO	The top left should be 2 pixels down while the bottom left should be up 2 pixels.
IA0454	LLU	The lower left should be up 2 pixels and 2 pixels left.
IA0455	TD +	The top should come down 3 pixels, and the lower left should be up 1 pixel and 2 to the left.
IA0456	TD	The top should come down 2 or 3 pixels.
IA0457	TD,LSR	The top should be 5 or 6 pixels lower, and the left side should be 1 pixel to the right.
IA0458	TD	The top should come down 5 pixels.
IA0459	TD	The top should come down 4 pixels.
IA0461	TD	The top should come down 4 or 5 pixels.
IA0466	TD	The top right should be 4 pixels lower.
IA0468	LL	The bottom should move 1 or 2 pixels left and up 1 or 2.
IA0470	AD	The top should be 2 pixels lower and the lower left should be 3 pixels lower.
IA0472	TD	The top should come down 3 pixels.
IA0475	TBO	The top should be 1 or 2 pixels to the right, while the bottom should be 1 pixel to the left.
IA0482	S	Coastal outline is incomplete and approximately 900-1000 lines south of image coastline.
IA0483	TD,RSL	The top right should come down 3 pixels and 2 to the left.
IA0492	><T	Left and right sides at the top should be 1 or 2 pixels towards the centerline.
IA0499	S	As in IA0482. Outline is 2000 lines south of true coast.
IA0505	LSR	The left side should be 1 or 2 pixels to the right.
IA0511	LSR	The top left should be 2 pixels to the right and 1 down.
IA0528	RSL	The right side should move 1 pixel to the left.
IA0529		The top right and bottom left should both be down 1 pixel and 2 pixels to the right.
IA0530	TD	The top should be 4 pixels lower.
IA0531	TD	The top should be 3 pixels lower.
IA0532	TD	The top should come down 4 pixels.
IA0533	TD +	The top should be 3 pixels lower and 1 pixel towards center.
IA0536	TD	The top should be 2 or 3 pixels lower.
IA0538	TD	The top should come down 3 pixels.
IA0539	TD	The top should be 3 pixels lower.
IA0540	ULD	The top left should be down 3 pixels and 2 pixels to the right.
IA0541	><,TD	The top should move down 4 pixels and 1 pixel in towards the center.

IA NO.	CODE	DESCRIPTION
IA0542	TD, ><	The top should be 6 pixels lower and 1 pixel towards center.
IA0543	TD	The top should be 5 pixels lower.
IA0544	TD	The top should come down 3 pixels.
IA0545	TD	The top should be 4 or 5 pixels lower.
IA0546	TD,LSR	The top should be 4 or 5 pixels lower, and the left side should move 1 pixel to the right.
IA0548	TD	The top should come down 3 pixels.
IA0549	TD,RSL	The top should be 6 or 7 pixels lower, and the top right should be 2 pixels to the left.
IA0550	><,TD	The left side should be 4 to 6 pixels to the right, the right side 1 pixel left, and the top down 3 pixels.
IA0551	TD,LSR	The top should be 6 pixels lower, and the left side should be 2 pixels to the right.
IA0552	TD, ><	The top should be down 4 pixels, and both top corners should be 1 pixel towards the centerline.
IA0553	TD	The top should be 5 or 6 pixels lower.
IA0554	TD	The top should be 6 or 7 pixels lower.
IA0555	TD	The top right should come down 6 pixels.
IA0556	TD +	The top right should be 4 pixels lower, and the right side should be 1 or 2 pixels to the right.
IA0557	TD +	The top should be 5 or 6 pixels lower and 1 pixel to the right.
IA0558	TD +	The top should be 5 or 6 pixels lower and 1 or 2 pixels to the right,and the lower left should go up 3 pixels.
IA0559	TD	The top should be 5 pixels lower.
IA0560	TD	The top should be 6 pixels lower.
IA0561	TD +	The top should be down 6 or 7 pixels and 1 or 2 pixels to the right.
IA0562	TD	The top should come down 8 pixels.
IA0563	TD	The top should be 9 pixels lower.
IA0564	TD	The top should come down 6 pixels.
IA0565	TD	The top should be 5 pixels lower.
IA0566	TD	The top left should be 8 pixels lower and 2 pixels to the right.
IA0567	TD	The top left should be 7 pixels lower.
IA0568	TD	The top should come down 9 pixels.
IA0569	TD,LSR	The top should be 5 or 6 pixels lower, and the left side should be 1 or 2 pixels to the right.
IA0570	TD	The top should be 10 pixels lower.
IA0571	TD	The top left should be 9 pixels lower and 2 to the right, and the top right should be down 6 pixels and 1 to the left.
IA0572	TD	The top left should be 6 pixels lower and 2 to the right.
IA0573	TD	The top should be 6 or 7 pixels lower.
IA0574	TD	The top right should be 7 pixels lower.
IA0575	TD	The top left should be 6 pixels lower.
IA0576	TD	The top left should be 7 pixels lower.
IA0577	TD	The top should be 8 or 9 pixels lower.
IA0578	TD	The top should be 7 pixels lower.
IA0579	TD	The top should move down 10 pixels and also 1 pixel towards the centerline.
IA0580	TD +	The top should be 6 pixels lower, and the top left should move 2 pixels to the right.
IA0581	TD +	The top should be 5 pixels lower, and the top left should move 2 pixels to the right.
IA0582	TD +	The top should be 4 or 5 pixels lower, and the top left should move 2 pixels to the right.

IA NO.	CODE	DESCRIPTION
IA0583	TD	The top should be 4 pixels lower.
IA0585	TD	The top should be 6 pixels lower.
IA0586		The top should be 17 pixels lower (due to approximately 15 lines missing at lat. of Miramichi Bay).
IA0587	TD	The top should be 4 or 5 pixels lower.
IA0588	TD	The top should be 5 or 6 pixels lower.
IA0589	TD +	The top should be down 6 or 7 pixels and 1 pixel each towards the centerline.
IA0590	TD	The top should be 6 or 7 pixels lower.
IA0591	TD	The top should be down 5 pixels.
IA0592	TD +	The top should be 6 pixels lower and 1 pixel to the right.
IA0593	TD	The top should be 7 pixels lower.
IA0594	LSR	The left side of the image should be 2 pixels to the right.
IA0595	TD	The top should be 4 pixels lower.
IA0596	TD	The top left should be 3 pixels lower and 1 to the right.
IA0597	TD	The top should be 5 pixels lower.
IA0598	TD	The top should be 3 pixels lower.
IA0599	TD,LSR	The top should be 1 or 2 pixels lower and the left side should move 1 or 2 pixels to the right.
IA0619	TD +	The top should be 1 or 2 pixels lower, and the top left should be 2 pixels to the right.
IA0648	TD	The top should be 2 pixels lower.
IA0654	RSL	The lower right should move 2 pixels to the left.
IA0671	TD	The top right should be 2 pixels lower.
IA0672	TD	The top should be 1 or 2 pixels lower.
IA0689	LSR	The upper left should be 3 pixels to the right.
IA0692	ULD	The top left should be 2 pixels lower.
IA0714	TD	The top should be down 2 pixels.
IA0718	ULD +	The upper left should be down 2 pixels, and 2 pixels to the right.
IA0733	LSR	The top left should be 2 pixels to the right and 1 down.
IA0747	URD	The top right should be down 2 pixels.
IA0750	ULD +	The upper left should be down 2 pixels, and 2 pixels to the right.
IA0763	RSL	The lower right should be 2 pixels to the left.
IA0766	TD	The top should come down 1 or 2 pixels.
IA0774	Q	Clouds &/or ice make this questionable. upper left should be 2 pixels lower and to the right?
IA0777	URU	The top right should be up 2 pixels (& top left up 1)
IAO783	RSL	The upper right should be 2 pixels to the left.
IA0784	UO	The upper left and right should be 1 or 2 pixels right and left respctively.
IA0826	LSR	The top left should be 2 pixels to the right and 1 down.
IA0836	RSL	The top right should be 2 pixels to the left and 1 up.
IA0838	TD	The top should come down 4 pixels.
IA0871	LSR	The left side should be 1 or 2 pixels to the right.
IA0917	URD	The top right should be down 1 pixel and 2 to the left.
IA0937	ULD	The top left should be 1 pixel lower and 2 to the right.
IA0938	TR	The top should be 1 or 2 pixels to the right.
IA0939	LRU	The lower right should be up 2 pixels.
IA0946	ULR	The upper left should be 2 pixels to the right.
IA0952	TD	The top should be 1 or 2 pixels lower.
IA0962	><	The left and right sides should be 1 pixel towards the center.
IA0964	TBO	The top should be down 1 or 2 pixels, and the bottom up 1.

IA NO.	CODE	DESCRIPTION
IA0966	LSR	The left side should be 1 or 2 pixels to the right.
IA0986	TD	The top should be down 1 or 2 pixels.
IA0995	ULD	The top left should be down 2 pixels and 1 to the right.
IA1000	ULD	The top left should be down 2 pixels.
IA1001	TD	The top should be 7 pixels lower due to shifting by missing lines.
IA1002	TBO	The top should be down 2 pixels, and the bottom up 1.
IA1005	TD	The top should be down 1 or 2 pixels.
IA1012	TD	The top should be down 6 or 8 pixels.
IA1020	URD	The top right should be down 2 pixels.
IA1068	URD	The top right should be down 2 pixels.
IA1077	TD	The top should be down 1 or 2 pixels.
IA1096	TD	The top should be down 3 pixels.
IA1104	TR	The top should be 2 pixels to the right.
IA1105	LSR	The top left should be 2 pixels to the right.
IA1113	LSR	The top left should be 2 pixels to the right.
IA1114	LSR	The top left should be 2 pixels to the right.
IA1115	TD	The top should be 9 or 10 pixels lower.
IA1116	ULD +	The top left should be down 2, the bottom right up 1 and 1 pixel to the left(should have yaw = -0.1?).

Appendix 4: Listing of raw data files via INVREAD

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA7	LAC	1984/025	18:42:33	13361	2048	0	1	IA0001	88/04/28	KLM
NOA7	LAC	1984/026	18:30:47	13375	2048	0	1	IA0002	88/05/16	KLM
NOA7	LAC	1984/027	18:18:29	13389	2548	0	1	IA0003	88/05/16	KLM
NOA7	LAC	1984/028	18:06:14	13403	2546	0	1	IA0004	88/05/16	KLM
NOA7	LAC	1984/029	17:54:00	13417	2548	0	1	IA0005	88/05/16	KLM
NOA7	LAC	1984/030	17:41:45	13431	2544	0	1	IA0006	88/05/16	KLM
NOA7	LAC	1984/030	19:22:47	13432	2548	0	1	IA0007	88/05/16	KLM
NOA7	LAC	1984/031	19:10:23	13446	2548	0	1	IA0008	88/05/27	SST
NOA7	LAC	1984/032	18:57:59	13460	2546	0	1	IA0009	88/05/16	KLM
NOA7	LAC	1984/033	18:45:38	13474	2548	0	1	IA0010	88/05/16	KLM
NOA7	LAC	1984/034	18:33:20	13488	3070	0	1	IA0011	88/05/18	KLM
NOA7	LAC	1984/035	18:21:01	13502	3072	0	1	IA0012	88/05/18	KLM
NOA7	LAC	1984/036	18:08:45	13516	3072	0	1	IA0013	88/05/18	KLM
NOA7	LAC	1984/037	17:56:31	13530	3072	0	1	IA0014	88/05/27	SST
NOA7	LAC	1984/038	17:44:16	13544	3072	0	1	IA0015	88/05/18	KLM
NOA7	LAC	1984/039	19:12:55	13559	2474	0	1	IA0016	88/05/18	KLM
NOA7	LAC	1984/040	19:00:33	13573	2759	0	1	IA0017	88/05/18	KLM
NOA7	LAC	1984/041	18:48:10	13587	3072	0	1	IA0018	88/05/18	KLM
NOA7	LAC	1984/042	18:35:51	13601	3072	0	1	IA0019	88/05/18	KLM
NOA7	LAC	1984/043	18:23:32	13615	3072	0	1	IA0020	88/04/29	KLM
NOA7	LAC	1984/044	18:11:15	13629	3072	0	1	IA0021	88/05/18	KLM
NOA7	LAC	1984/046	17:46:45	13657	3072	0	1	IA0022	88/05/26	SST
NOA7	LAC	1984/047	17:35:04	13671	2841	0	1	IA0023	88/04/26	LAP-testing
NOA7	LAC	1984/047	19:15:25	13672	3072	0	1	IA0024	88/04/26	LAP-testing
NOA7	LAC	1984/048	19:03:02	13686	3071	0	1	IA0025	88/05/26	IGH
NOA7	LAC	1984/049	18:50:40	13700	3071	0	1	IA0027	88/05/27	SST
NOA7	LAC	1984/050	18:38:18	13714	3070	0	1	IA0026	88/05/26	IGH
NOA7	LAC	1984/051	18:25:59	13728	3072	0	1	IA0028	88/05/03	LAP-Test
NOA7	LAC	1984/052	18:13:43	13742	3070	0	1	IA0029	88/05/27	IGH
NOA7	LAC	1984/053	18:01:30	13756	3072	0	1	IA0030	88/05/04	LAP-Test
NOA7	LAC	1984/054	17:49:11	13770	3066	0	1	IA0031	88/05/30	SST
NOA7	LAC	1984/055	17:37:33	13784	2830	0	1	IA0032	88/06/02	IGH
NOA7	LAC	1984/056	19:05:29	13799	3072	0	1	IA0033	88/06/02	IGH
NOA7	LAC	1984/057	18:53:06	13813	3072	0	1	IA0034	88/06/03	IGH
NOA7	LAC	1984/058	18:40:44	13827	3066	0	1	IA0035	88/06/03	IGH
NOA7	LAC	1984/059	18:28:24	13841	3074	0	1	IA0036	88/05/04	LAP-Test
NOA7	LAC	1984/060	18:16:06	13855	3072	0	1	IA0037	88/04/29	KLM
NOA7	LAC	1984/061	18:03:49	13869	3072	0	1	IA0038	88/06/06	IGH
NOA7	LAC	1984/062	17:51:34	13883	3067	0	1	IA0039	88/06/06	IGH
NOA7	LAC	1984/063	17:39:53	13897	2858	0	1	IA0040	88/06/07	IGH
NOA7	LAC	1984/065	18:55:28	13926	3071	0	1	IA0041	88/06/07	IGH
NOA7	LAC	1984/066	18:43:06	13940	3072	0	1	IA0042	88/05/09	LAP-Test
NOA7	LAC	1984/067	18:30:46	13954	3072	0	1	IA0043	88/06/07	IGH
NOA7	LAC	1984/068	18:18:28	13968	3072	0	1	IA0044	88/06/09	IGH
NOA7	LAC	1984/069	18:06:11	13982	3072	0	1	IA0045	88/06/09	IGH
NOA7	LAC	1984/070	17:54:01	13996	3028	0	1	IA0046	88/06/07	IGH
NOA7	LAC	1984/071	17:42:06	14010	2915	0	1	IA0047	88/06/08	IGH
NOA7	LAC	1984/072	19:10:13	14025	3072	0	1	IA0048	88/06/08	IGH
NOA7	LAC	1984/073	18:57:49	14039	3072	0	1	IA0049	88/06/16	SST
NOA7	LAC	1984/074	18:45:26	14053	3072	0	1	IA0050	88/06/16	IGH
NOA7	LAC	1984/075	18:33:05	14067	3072	0	1	IA0051	88/05/09	LAP-Test
NOA7	LAC	1984/076	18:20:49	14081	3074	0	1	IA0052	88/06/09	IGH
NOA7	LAC	1984/077	18:08:29	14095	3072	0	1	IA0053	88/04/29	KLM

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA7	LAC	1984/078	17:56:12	14109	3067	0	1	IA0054	88/06/16	IGH
NOA7	LAC	1984/079	17:45:18	14123	2585	0	1	IA0056	88/06/16	IGH
NOA7	LAC	1984/079	19:24:58	14124	2634	0	1	IA0055	88/06/09	IGH
NOA7	LAC	1984/080	19:12:31	14138	3073	0	1	IA0057	88/05/10	LAP-Test
NOA7	LAC	1984/081	19:00:06	14152	3045	0	1	IA0058	88/05/10	LAP-Test
NOA7	LAC	1984/082	18:47:44	14167	1632	0	1	IA0059	88/06/10	IGH
NOA7	LAC	1984/083	18:35:23	14180	3072	0	1	IA0060	88/06/10	IGH
NOA7	LAC	1984/084	18:23:03	14194	3074	0	1	IA0061	88/06/10	IGH
NOA7	LAC	1984/086	17:58:28	14222	3072	0	1	IA0062	88/06/10	IGH
NOA7	LAC	1984/087	17:46:12	14236	3070	0	1	IA0063	88/06/10	IGH
NOA7	LAC	1984/089	19:02:22	14265	3046	0	1	IA0064	88/06/13	IGH
NOA7	LAC	1984/090	18:49:59	14279	3072	0	1	IA0065	88/06/13	IGH
NOA7	LAC	1984/091	18:37:36	14293	3072	0	1	IA0066	88/06/13	IGH
NOA7	LAC	1984/092	18:25:16	14307	3070	0	1	IA0067	88/06/13	IGH
NOA7	LAC	1984/093	18:12:59	14321	3072	0	1	IA0068	88/06/16	IGH
NOA7	LAC	1984/094	18:00:40	14335	3070	0	1	IA0069	88/06/13	IGH
NOA7	LAC	1984/095	17:48:24	14349	3072	0	1	IA0070	88/06/13	IGH
NOA7	LAC	1984/096	19:17:00	14364	2890	0	1	IA0071	88/06/20	SST
NOA7	LAC	1984/101	18:15:08	14434	3072	0	1	IA0072	88/06/14	IGH
NOA7	LAC	1984/102	18:02:50	14448	3073	0	1	IA0073	88/06/14	IGH
NOA7	LAC	1984/107	18:41:57	14519	3068	0	1	IA0074	88/06/17	IGH
NOA7	LAC	1984/108	18:29:36	14533	3072	0	1	IA0075	88/06/17	IGH
NOA7	LAC	1984/109	18:17:16	14547	3045	0	1	IA0076	88/06/17	IGH
NOA7	LAC	1984/110	18:04:57	14561	3070	0	1	IA0077	88/06/14	IGH
NOA7	LAC	1984/111	17:52:41	14575	3070	0	1	IA0078	88/06/19	IGH
NOA7	LAC	1984/112	19:21:18	14590	2743	0	1	IA0079	88/06/19	IGH
NOA7	LAC	1984/113	19:08:51	14604	2821	0	1	IA0080	88/06/14	IGH
NOA7	LAC	1984/114	18:56:27	14618	3070	0	1	IA0081	88/06/14	IGH
NOA7	LAC	1984/115	18:44:04	14632	3072	0	1	IA0082	88/,306/14	IGH
NOA7	LAC	1984/116	18:31:43	14646	3069	0	1	IA0083	88/06/19	IGH
NOA7	LAC	1984/116	20:09:51	14647	3072	0	1	IA0084	88/06/21	IGH
NOA7	LAC	1984/117	18:19:23	14660	3072	0	1	IA0085	88/06/21	IGH
NOA7	LAC	1984/117	19:57:34	14661	3073	0	1	IA0086	88/06/21	IGH
NOA7	LAC	1984/118	18:07:04	14674	3071	0	1	IA0087	88/06/21	IGH
NOA7	LAC	1984/119	17:54:47	14688	2048	0	1	IA0088	88/06/21	IGH
NOA7	LAC	1984/121	19:11:00	14717	2869	0	1	IA0089	88/06/21	IGH
NOA7	LAC	1984/122	18:58:33	14731	3072	0	1	IA0090	88/06/21	IGH
NOA7	LAC	1984/123	18:46:09	14745	3073	0	1	IA0091	88/06/21	IGH
NOA7	LAC	1984/124	18:33:51	14759	3070	0	1	IA0092	88/06/21	IGH
NOA7	LAC	1984/125	18:21:28	14773	3072	0	1	IA0093	88/06/21	IGH
NOA7	LAC	1984/126	18:09:08	14787	3070	0	1	IA0094	88/05/10	LAP-Test
NOA7	LAC	1984/126	19:47:21	14788	3072	0	1	IA0095	88/06/23	IGH
NOA7	LAC	1984/127	17:56:50	14801	3072	0	1	IA0096	88/06/23	IGH
NOA7	LAC	1984/128	19:25:31	14816	2556	0	1	IA0097	88/04/29	KLM
NOA7	LAC	1984/129	19:13:04	14830	2669	0	1	IA0098	88/06/23	IGH
NOA7	LAC	1984/130	19:00:38	14844	3072	0	1	IA0099	88/06/23	IGH
NOA7	LAC	1984/131	18:48:15	14858	3068	0	1	IA0100	88/06/23	IGH
NOA8	LAC	1984/132	11:54:52	5826	3072	0	1	IA0101	88/06/23	IGH
NOA7	LAC	1984/132	18:35:52	14872	2863	0	1	IA0102	88/06/23	IGH
NOA7	LAC	1984/133	18:23:31	14886	3072	0	1	IA0103	88/06/23	IGH
NOA7	LAC	1984/134	18:11:12	14900	3072	0	1	IA0104	88/06/23	IGH
NOA7	LAC	1984/135	17:58:53	14914	2926	0	1	IA0105	88/06/23	IGH
NOA7	LAC	1984/136	17:46:45	14928	2562	0	1	IA0106	88/06/23	alloc
NOA7	LAC	1984/137	19:15:06	14943	2945	0	1	IA0107	88/06/23	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA7	LAC	1984/138	19:02:39	14957	1715	0	1	IA0108	88/06/23	IGH
NOA7	LAC	1984/139	18:50:20	14971	2523	0	1	IA0109	88/06/24	IGH
NOA7	LAC	1984/140	18:37:54	14985	1969	0	1	IA0110	88/06/24	IGH
NOA7	LAC	1984/141	18:25:32	14999	2246	0	1	IA0111	88/05/12	LAP-Test
NOA7	LAC	1984/142	18:13:13	15013	3072	0	1	IA0112	88/06/25	IGH
NOA7	LAC	1984/143	18:00:54	15027	3071	0	1	IA0113	88/06/25	IGH
NOA7	LAC	1984/144	17:48:45	15041	3016	0	1	IA0114	88/06/25	IGH
NOA7	LAC	1984/145	19:17:07	15056	2572	0	1	IA0115	88/06/25	IGH
NOA7	LAC	1984/146	19:04:41	15070	3072	0	1	IA0116	88/06/26	IGH
NOA7	LAC	1984/148	18:39:56	15098	1790	0	1	IA0117	88/06/26	IGH
NOA7	LAC	1984/149	18:27:31	15112	3071	0	1	IA0118	88/06/26	IGH
NOA7	LAC	1984/150	18:15:11	15126	3071	0	1	IA0119	88/06/27	IGH
NOA7	LAC	1984/151	18:02:52	15140	3072	0	1	IA0120	88/06/27	IGH
NOA7	LAC	1984/152	17:50:41	15154	3029	0	1	IA0121	88/05/12	LAP-Test
NOA7	LAC	1984/153	19:20:54	15169	2202	0	1	IA0122	88/06/27	IGH
NOA7	LAC	1984/154	19:08:40	15183	2323	0	1	IA0123	88/06/27	IGH
NOA7	LAC	1984/155	18:54:19	15197	3018	0	1	IA0124	88/06/27	IGH
NOA7	LAC	1984/156	18:41:14	15211	3072	0	1	IA0125	88/06/27	IGH
NOA7	LAC	1984/157	18:28:45	15225	3071	0	1	IA0126	88/06/28	IGH
NOA7	LAC	1984/158	18:16:18	15239	3071	0	1	IA0127	88/06/28	IGH
NOA7	LAC	1984/159	18:04:26	15253	2874	0	1	IA0128	88/06/28	IGH
NOA7	LAC	1984/160	17:53:05	15267	2491	0	1	IA0129	88/04/29	KLM
NOA7	LAC	1984/160	19:35:05	15268	1817	0	1	IA0130	88/06/28	IGH
NOA7	LAC	1984/161	19:22:50	15282	3072	0	1	IA0131	88/06/28	IGH
NOA8	LAC	1984/162	12:44:59	6253	2700	0	1	IA0132	88/04/29	KLM
NOA7	LAC	1984/162	19:10:35	15296	2258	0	1	IA0133	88/06/28	IGH
NOA8	LAC	1984/162	22:31:47	6259	3070	0	1	IA0134	88/06/28	IGH
NOA7	LAC	1984/163	18:55:40	15310	3072	0	1	IA0135	88/06/29	IGH
NOA7	LAC	1984/164	08:52:24	15318	2938	0	1	IA0136	88/06/29	IGH
NOA7	LAC	1984/164	18:43:10	15324	2266	0	1	IA0137	88/06/29	IGH
NOA7	LAC	1984/165	18:30:41	15338	3066	0	1	IA0138	88/06/29	IGH
NOA7	LAC	1984/166	18:18:13	15352	3072	0	1	IA0139	88/06/29	IGH
NOA7	LAC	1984/167	18:06:08	15366	2948	0	1	IA0140	88/06/29	IGH
NOA7	LAC	1984/168	17:54:31	15380	2662	0	1	IA0141	88/06/29	IGH
NOA7	LAC	1984/168	19:36:59	15381	3068	0	1	IA0142	88/06/30	IGH
NOA7	LAC	1984/169	17:43:14	15394	2263	0	1	IA0143	88/07/01	IGH
NOA7	LAC	1984/169	19:24:43	15395	3066	0	1	IA0144	88/07/01	IGH
NOA7	LAC	1984/170	19:12:28	15409	2305	0	1	IA0145	88/07/01	IGH
NOA7	LAC	1984/171	18:57:35	15423	3072	0	1	IA0146	88/07/01	IGH
NOA7	LAC	1984/172	18:45:04	15437	3072	0	1	IA0147	88/07/01	IGH
NOA7	LAC	1984/173	18:32:35	15451	3072	0	1	IA0148	88/07/02	IGH
NOA7	LAC	1984/174	18:20:08	15465	3072	0	1	IA0149	88/07/02	IGH
NOA7	LAC	1984/174	20:02:07	15466	3072	0	1	IA0150	88/07/02	IGH
NOA7	LAC	1984/175	18:08:03	15479	2934	0	1	IA0151	88/07/04	IGH
NOA7	LAC	1984/176	17:56:22	15493	1000	0	1	IA0152	88/07/04	IGH
NOA7	LAC	1984/176	19:37:35	15494	2397	0	1	IA0153	88/07/04	IGH
NOA7	LAC	1984/177	17:44:59	15507	2301	0	1	IA0154	88/07/04	IGH
NOA7	LAC	1984/177	19:25:17	15508	3070	0	1	IA0155	88/07/04	IGH
NOA6	LAC	1984/177	22:16:27	25972	3072	0	1	IA0156	88/07/04	IGH
NOA7	LAC	1984/178	07:40:54	15515	2567	0	1	IA0157	88/07/05	IGH
NOA6	LAC	1984/178	12:06:25	25980	2792	0	1	IA0158	88/07/05	IGH
NOA7	LAC	1984/179	07:29:04	15529	2391	0	1	IA0159	88/07/05	IGH
NOA7	LAC	1984/179	18:59:26	15536	3072	0	1	IA0160	88/07/05	IGH
NOA7	LAC	1984/180	18:46:54	15550	3071	0	1	IA0161	88/07/05	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA7	LAC	1984/181	18:34:26	15564	3072	0	1	IA0162	88/07/05	IGH
NOA7	LAC	1984/182	18:22:08	15578	3010	0	1	IA0163	88/07/05	IGH
NOA7	LAC	1984/183	18:10:12	15592	2809	0	1	IA0164	88/07/05	IGH
NOA7	LAC	1984/183	19:51:38	15593	3072	0	1	IA0165	88/07/05	IGH
NOA7	LAC	1984/184	19:39:22	15607	3072	0	1	IA0166	88/07/06	ihg
NOA7	LAC	1984/185	19:27:07	15621	3072	0	1	IA0167	88/07/06	IGH
NOA6	LAC	1984/186	12:15:01	26094	2707	0	1	IA0168	88/07/06	IGH
NOA7	LAC	1984/187	19:01:17	15649	3070	0	1	IA0169	88/07/06	IGH
NOA7	LAC	1984/188	18:48:45	15663	3071	0	1	IA0170	88/07/06	IGH
NOA7	LAC	1984/189	18:36:18	15677	3072	0	1	IA0171	88/07/06	IGH
NOA7	LAC	1984/190	18:23:47	15691	3072	0	1	IA0172	88/07/06	IGH
NOA7	LAC	1984/191	18:11:40	15705	2950	0	1	IA0173	88/07/07	IGH
NOA7	LAC	1984/192	17:59:45	15719	2765	0	1	IA0174	88/07/07	IGH
NOA7	LAC	1984/193	17:48:30	15733	2076	0	1	IA0175	88/07/07	IGH
NOA6	LAC	1984/194	22:09:21	26214	3072	0	1	IA0176	88/07/07	IGH
NOA6	LAC	1984/195	12:00:20	26222	2475	0	1	IA0177	88/07/07	IGH
NOA7	LAC	1984/196	18:50:34	15776	3072	0	1	IA0178	88/07/07	IGH
NOA7	LAC	1984/197	18:38:04	15790	3072	0	1	IA0179	88/07/08	IGH
NOA7	LAC	1984/198	18:25:35	15804	3072	0	1	IA0180	88/07/08	IGH
NOA7	LAC	1984/199	18:13:42	15818	2864	0	1	IA0181	88/07/08	IGH
NOA7	LAC	1984/200	18:01:30	15832	2793	0	1	IA0182	88/07/08	IGH
NOA7	LAC	1984/201	19:30:41	15847	3072	0	1	IA0183	88/07/08	IGH
NOA7	LAC	1984/202	07:46:45	15854	2428	0	1	IA0186	88/07/08	IGH
NOA7	LAC	1984/202	19:17:48	15861	3072	0	1	IA0185	88/07/08	IGH
NOA6	LAC	1984/202	22:17:52	26328	3072	0	1	IA0184	88/07/08	IGH
NOA7	LAC	1984/203	07:34:22	15868	2436	0	1	IA0187	88/07/08	IGH
NOA7	LAC	1984/203	19:04:53	15875	3072	0	1	IA0188	88/07/07	IGH
NOA6	LAC	1984/204	11:44:23	26350	2669	0	1	IA0190	88/07/09	IGH
NOA7	LAC	1984/204	18:52:26	15889	3072	0	1	IA0189	88/07/08	IGH
NOA7	LAC	1984/205	18:39:51	15903	3072	0	1	IA0191	88/07/09	SST
NOA7	LAC	1984/206	18:27:22	15917	2296	0	1	IA0192	88/07/09	SST
NOA6	LAC	1984/207	12:12:23	26393	2623	0	1	IA0193	88/07/09	SST
NOA7	LAC	1984/207	18:15:11	15931	2968	0	1	IA0194	88/07/10	IGH
NOA7	LAC	1984/207	19:57:00	15932	3072	0	1	IA0195	88/07/10	IGH
NOA7	LAC	1984/208	18:03:06	15945	2838	0	1	IA0196	88/07/10	IGH
NOA7	LAC	1984/209	17:51:42	15959	2476	0	1	IA0197	88/07/10	IGH
NOA7	LAC	1984/210	19:20:13	15974	3072	0	1	IA0198	88/07/11	SST
NOA6	LAC	1984/211	12:16:28	26450	2645	0	1	IA0199	88/07/11	SST
NOA7	LAC	1984/211	19:07:05	15988	3070	0	1	IA0200	88/07/11	SST
NOA7	LAC	1984/212	18:54:07	16002	3072	0	1	IA0201	88/07/11	SST
NOA6	LAC	1984/213	11:29:12	26478	2570	0	1	IA0202	88/07/11	SST
NOA7	LAC	1984/213	18:41:36	16016	3070	0	1	IA0203	88/07/12	IGH
NOA7	LAC	1984/214	18:29:07	16030	3070	0	1	IA0204	88/07/12	IGH
NOA7	LAC	1984/215	18:16:45	16044	3041	0	1	IA0205	88/07/12	IGH
NOA7	LAC	1984/215	19:58:45	16045	3060	0	1	IA0206	88/07/13	SST
NOA7	LAC	1984/216	18:05:04	16058	2768	0	1	IA0207	88/07/13	SST
NOA7	LAC	1984/216	19:46:27	16059	3072	0	1	IA0208	88/07/13	SST
NOA7	LAC	1984/217	17:54:02	16072	2266	0	1	IA0209	88/07/13	SST
NOA6	LAC	1984/217	22:59:48	26542	2779	0	1	IA0210	88/07/14	SST
NOA7	LAC	1984/218	19:21:57	16087	3072	0	1	IA0211	88/07/14	SST
NOA7	LAC	1984/219	19:08:51	16101	3029	0	1	IA0212	88/07/14	SST
NOA7	LAC	1984/220	18:55:52	16115	3072	0	1	IA0213	88/07/14	SST
NOA7	LAC	1984/221	18:43:22	16129	2567	0	1	IA0214	88/07/15	IGH
NOA6	LAC	1984/222	11:14:21	26606	2331	0	1	IA0215	88/07/15	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA7	LAC	1984/223	18:18:30	16157	3031	0	1	IA0216	88/07/15	IGH
NOA7	LAC	1984/224	18:07:02	16171	2674	0	1	IA0217	88/07/15	SST
NOA6	LAC	*1984/224*	*21:50:59*	*26641*	*2967*	*0*	*1*	*IA0218*	88/07/15	SST
NOA7	LAC	1984/227	19:10:35	16214	3072	0	1	IA0219	88/07/15	IA0219
NOA7	LAC	1984/228	18:57:36	16228	3072	0	1	IA0220	88/07/15	IA0220
NOA6	LAC	1984/229	11:45:43	26706	2605	0	1	IA0221	88/07/15	SST
NOA7	LAC	1984/229	18:45:06	16242	1196	0	1	IA0221	88/07/18	SST
NOA7	LAC	1984/230	18:32:36	16256	3072	0	1	IA0222	88/07/18	SST
NOA7	LAC	1984/231	18:20:08	16270	3022	0	1	IA0223	88/07/18	SST
NOA6	LAC	1984/232	12:13:11	26749	2743	0	1	IA0224	88/07/18	SST
NOA6	LAC	1984/233	11:49:51	26763	2609	0	1	IA0225	88/07/18	IGH
NOA7	LAC	1984/234	19:25:21	16313	3072	0	1	IA0226	88/07/18	IGH
NOA7	LAC	1984/236	18:59:19	16341	1882	0	1	IA0227	88/07/18	IGH
NOA6	LAC	1984/237	11:53:44	26820	2695	0	1	IA0228	88/07/18	IGH
NOA6	LAC	1984/238	11:30:10	26834	2621	0	1	IA0229	88/07/19	SST
NOA7	LAC	1984/239	18:21:50	16383	3072	0	1	IA0230	88/07/19	SST
NOA7	LAC	1984/240	08:19:23	16391	2643	0	1	IA0231	88/07/19	SST
NOA7	LAC	1984/241	17:58:05	16411	2668	0	1	IA0232	88/07/19	SST
NOA7	LAC	1984/241	19:39:21	16412	3052	0	1	IA0233	88/07/19	IGH
NOA7	LAC	1984/242	19:27:03	16426	3070	0	1	IA0234	88/07/19	IGH
NOA7	LAC	1984/244	19:01:02	16454	3072	0	1	IA0235	88/07/19	IGH
NOA7	LAC	1984/245	18:48:31	16468	3073	0	1	IA0236	88/07/19	IGH
NOA7	LAC	1984/246	18:36:00	16482	3072	0	1	IA0237	88/07/20	SST
NOA7	LAC	1984/247	18:23:32	16496	3070	0	1	IA0238	88/07/20	SST
NOA7	LAC	1984/248	18:13:01	16510	2371	0	1	IA0239	88/07/20	SST
NOA6	LAC	1984/249	12:05:46	26991	2823	0	1	IA0240	88/04/29	KLM
NOA7	LAC	1984/249	18:00:03	16524	2559	0	1	IA0241	88/07/20	IGH
NOA7	LAC	1984/250	17:48:26	16538	2276	0	1	IA0242	88/07/20	IGH
NOA7	LAC	1984/251	19:15:40	16553	3072	0	1	IA0243	88/07/20	IGH
NOA7	LAC	1984/252	19:02:19	16567	3072	0	1	IA0244	88/07/20	IGH
NOA7	LAC	1984/253	18:50:11	16581	3073	0	1	IA0245	88/07/21	SST
NOA7	LAC	1984/254	18:37:41	16595	3072	0	1	IA0246	88/07/21	SST
NOA7	LAC	1984/255	18:25:12	16609	3072	0	1	IA0247	88/07/21	SST
NOA7	LAC	1984/255	20:04:45	16610	3070	0	1	IA0248	88/07/21	SST
NOA7	LAC	1984/256	19:52:24	16624	3072	0	1	IA0249	88/07/21	IGH
NOA7	LAC	1984/257	19:40:02	16638	3068	0	1	IA0250	88/07/21	IGH
NOA7	LAC	1984/258	19:27:44	16652	3066	0	1	IA0251	88/07/21	IGH
NOA7	LAC	1984/259	19:15:25	16666	3073	0	1	IA0253	88/07/22	SST
NOA6	LAC	1984/259	22:50:59	27140	3072	0	1	IA0252	88/07/21	IGH
NOA7	LAC	1984/260	19:04:23	16680	3073	0	1	IA0254	88/07/22	SST
NOA7	LAC	1984/261	18:51:51	16694	2048	0	1	IA0255	88/07/22	SST
NOA6	LAC	1984/262	11:54:35	27176	2738	0	1	IA0256	88/07/22	SST
NOA7	LAC	1984/262	18:39:21	16708	2751	0	1	IA0257	88/07/24	IGH
NOA6	LAC	1984/263	11:31:23	27190	2533	0	1	IA0258	89/04/28	LAP
NOA7	LAC	1984/264	19:54:02	16737	3068	0	1	IA0259	88/07/24	IGH
NOA6	LAC	1984/264	22:31:19	27211	3072	0	1	IA0260	88/07/24	IGH
NOA7	LAC	1984/265	19:41:41	16751	3072	0	1	IA0261	88/07/24	IGH
NOA7	LAC	1984/268	19:07:21	16793	2597	0	1	IA0262	88/07/25	SST
NOA7	LAC	1984/269	18:53:30	16807	3072	0	1	IA0264	88/07/25	SST
NOA7	LAC	1984/270	18:40:59	16821	3068	0	1	IA0265	88/07/25	SST
NOA7	LAC	1984/271	18:28:30	16835	3072	0	1	IA0266	88/07/25	IGH
NOA6	LAC	1984/272	11:15:40	27318	2568	0	1	IA0267	88/07/25	IGH
NOA7	LAC	1984/273	18:04:39	16863	2689	0	1	IA0269	88/07/25	IGH
NOA7	LAC	1984/274	19:30:59	16878	3070	0	1	IA0263	88/07/25	SST

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA6	LAC	1984/274	21:52:45	27353	3042	0	1	IA0270	88/07/26	SST
NOA7	LAC	1984/275	19:18:40	16892	3072	0	1	IA0271	88/07/26	SST
NOA7	LAC	1984/276	19:07:40	16906	3070	0	1	IA0272	88/07/26	SST
NOA7	LAC	1984/277	20:34:27	16921	3072	0	1	IA0273	88/07/26	SST
NOA7	LAC	1984/278	20:22:02	16935	3072	0	1	IA0274	88/07/27	IGH
NOA7	LAC	1984/279	18:30:09	16948	2697	0	1	IA0275	88/07/27	IGH
NOA7	LAC	1984/280	19:57:16	16963	3070	0	1	IA0276	88/07/27	IGH
NOA7	LAC	1984/281	19:44:55	16977	3071	0	1	IA0277	88/07/27	IGH
NOA7	LAC	1984/282	17:55:18	16990	2161	0	1	IA0278	88/07/28	IGH
NOA7	LAC	1984/283	19:20:16	17005	3072	0	1	IA0279	88/07/28	IGH
NOA7	LAC	1984/284	19:09:17	17019	3072	0	1	IA0280	88/07/28	IGH
NOA7	LAC	1984/285	18:56:44	17033	3069	0	1	IA0282	88/07/28	IGH
NOA7	LAC	1984/286	18:44:13	17047	3072	0	1	IA0283	88/07/31	IGH
NOA7	LAC	1984/289	19:46:30	17090	3071	0	1	IA0285	88/07/31	IGH
NOA7	LAC	1984/290	17:56:46	17103	2205	0	1	IA0286	88/07/31	IGH
NOA7	LAC	1984/290	19:34:10	17104	3059	0	1	IA0287	88/07/31	IGH
NOA7	LAC	1984/291	19:21:52	17118	3072	0	1	IA0288	88/08/02	IGH
NOA6	LAC	1984/292	11:35:58	27603	2610	0	1	IA0289	88/08/02	IGH
NOA7	LAC	1984/292	19:10:53	17132	3072	0	1	IA0290	88/08/02	IGH
NOA7	LAC	1984/293	18:58:19	17146	3072	0	1	IA0291	88/08/02	IGH
NOA7	LAC	1984/294	18:45:49	17160	1964	0	1	IA0292	88/08/02	IGH
NOA7	LAC	1984/295	18:33:18	17174	3070	0	1	IA0293	88/08/02	IGH
NOA7	LAC	1984/296	20:00:26	17189	3072	0	1	IA0294	88/08/03	IGH
NOA7	LAC	1984/297	18:09:16	17202	2749	0	1	IA0295	88/08/03	IGH
NOA7	LAC	1984/298	19:35:44	17217	3072	0	1	IA0296	88/08/03	IGH
NOA7	LAC	1984/299	19:23:26	17231	3072	0	1	IA0297	88/08/03	IGH
NOA7	LAC	1984/300	19:12:28	17245	2693	0	1	IA0298	88/08/04	IGH
NOA7	LAC	1984/301	18:59:54	17259	3070	0	1	IA0299	88/08/11	IGH
NOA7	LAC	1984/302	20:26:47	17274	3072	0	1	IA0300	88/08/04	IGH
NOA7	LAC	1984/303	18:34:53	17287	3067	0	1	IA0301	88/08/04	IGH
NOA7	LAC	1984/304	08:31:50	17295	2814	0	1	IA0302	88/08/04	IGH
NOA6	LAC	1984/304	11:47:36	27774	2803	0	1	IA0303	88/08/05	IGH
NOA7	LAC	1984/304	20:02:00	17302	3072	0	1	IA0304	88/08/05	IGH
NOA7	LAC	1984/305	08:19:39	17309	2776	0	1	IA0305	88/08/16	LAP
NOA6	LAC	1984/305	11:24:37	27788	2505	0	1	IA0306	88/08/05	IGH
NOA7	LAC	1984/305	18:11:05	17315	2658	0	1	IA0307	88/08/05	IGH
NOA7	LAC	1984/305	19:49:39	17316	3072	0	1	IA0308	88/08/08	IGH
NOA7	LAC	1984/306	17:59:23	17329	2393	0	1	IA0310	88/08/08	IGH
NOA7	LAC	1984/306	19:37:18	17330	2505	0	1	IA0311	88/08/08	IGH
NOA7	LAC	1984/308	19:14:02	17358	3070	0	1	IA0312	88/08/08	IGH
NOA7	LAC	1984/309	19:01:28	17372	3072	0	1	IA0313	88/08/09	IGH
NOA7	LAC	1984/310	18:48:56	17386	3068	0	1	IA0314	88/08/09	IGH
NOA7	LAC	1984/311	18:36:26	17400	3072	0	1	IA0315	88/08/09	IGH
NOA7	LAC	1984/312	20:03:33	17415	3073	0	1	IA0316	88/08/09	IGH
NOA7	LAC	1984/313	19:51:11	17429	3072	0	1	IA0317	88/08/09	IGH
NOA7	LAC	1984/314	19:38:50	17443	3072	0	1	IA0318	88/08/09	IGH
NOA7	LAC	1984/315	19:26:31	17457	3072	0	1	IA0319	88/08/10	IGH
NOA7	LAC	1984/317	19:03:01	17485	3069	0	1	IA0321	88/08/10	IGH
NOA7	LAC	1984/320	20:05:05	17528	3072	0	1	IA0323	88/08/10	IGH
NOA7	LAC	1984/321	19:52:43	17542	3068	0	1	IA0324	88/08/10	IGH
NOA7	LAC	1984/322	18:02:19	17555	2447	0	1	IA0235	88/08/10	IGH
NOA7	LAC	1984/323	19:28:03	17570	3036	0	1	IA0326	88/08/11	IGH
NOA7	LAC	1984/324	19:15:46	17584	3072	0	1	IA0327	88/08/11	IGH
NOA7	LAC	1984/325	19:04:33	17598	3072	0	1	IA0328	88/08/11	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA7	LAC	1984/326	18:52:01	17612	3072	0	1	IA0329	88/08/11	IGH
NOA7	LAC	1984/327	18:39:30	17626	2957	0	1	IA0330	88/08/15	IGH
NOA7	LAC	1984/328	20:06:36	17641	3072	0	1	IA0331	88/08/15	IGH
NOA7	LAC	1984/329	19:54:14	17655	3069	0	1	IA0332	88/08/15	IGH
NOA7	LAC	1984/330	19:41:53	17669	3072	0	1	IA0333	88/08/15	IGH
NOA7	LAC	1984/331	19:29:34	17683	3072	0	1	IA0334	88/08/15	IGH
NOA7	LAC	1984/332	19:17:16	17697	3072	0	1	IA0335	88/08/16	IGH
NOA7	LAC	1984/333	19:06:04	17711	3070	0	1	IA0336	88/08/16	IGH
NOA7	LAC	1984/334	20:32:55	17726	3072	0	1	IA0337	88/08/16	IGH
NOA7	LAC	1984/335	20:20:31	17740	3070	0	1	IA0338	88/08/16	IGH
NOA7	LAC	1984/337	18:17:02	17767	2665	0	1	IA0339	88/08/16	IGH
NOA6	LAC	1984/337	23:20:39	28251	3040	0	1	IA0340	88/08/18	IGH
NOA7	LAC	1984/338	19:43:24	17782	3072	0	1	IA0341	88/08/18	IGH
NOA7	LAC	1984/339	19:31:05	17796	3072	0	1	IA0342	88/08/18	IGH
NOA7	LAC	1984/343	20:22:01	17853	3072	0	1	IA0343	88/08/18	IGH
NOA7	LAC	1984/344	20:09:38	17867	3072	0	1	IA0344	88/08/19	IGH
NOA6	LAC	1984/344	22:14:16	28350	3072	0	1	IA0345	88/08/19	IGH
NOA7	LAC	1984/345	18:18:03	17880	2900	0	1	IA0346	88/08/19	IGH
NOA7	LAC	1984/346	19:44:47	17895	3072	0	1	IA0347	88/08/19	IGH
NOA7	LAC	1984/348	19:20:03	17923	3072	0	1	IA0349	88/08/19	IGH
NOA7	LAC	1984/349	19:08:51	17937	3070	0	1	IA0350	88/08/22	IGH
NOA7	LAC	1984/352	20:10:47	17980	3072	0	1	IA0353	88/08/22	IGH
NOA7	LAC	1984/353	08:28:16	17987	2712	0	1	IA0354	88/08/22	IGH
NOA7	LAC	1984/353	18:19:25	17993	2812	0	1	IA0355	88/08/22	IGH
NOA7	LAC	1984/354	19:46:00	18008	3072	0	1	IA0356	88/08/22	IGH
NOA7	LAC	1984/357	19:10:06	18050	2934	0	1	IA0359	88/08/23	IGH
NOA7	LAC	1984/358	18:58:16	18064	3071	0	1	IA0360	88/08/23	IGH
NOA6	LAC	1984/358	21:38:32	28549	2813	0	1	IA0361	88/08/23	IGH
NOA7	LAC	1984/359	18:44:59	18078	3072	0	1	IA0362	88/08/23	IGH
NOA7	LAC	1984/361	18:20:52	18106	2741	0	1	IA0364	88/08/23	IGH
NOA7	LAC	1984/361	19:59:37	18107	3072	0	1	IA0365	88/08/24	IGH
NOA7	LAC	1984/362	18:08:58	18120	2537	0	1	IA0366	88/08/24	IGH
NOA7	LAC	1984/362	19:47:15	18121	3072	0	1	IA0367	88/08/24	IGH
NOA9	LAC	1984/363	17:36:29	164	3072	0	1	IA0368	88/08/24	IGH
NOA7	LAC	1984/363	19:34:54	18135	3072	0	1	IA0369	88/08/24	IGH
NOA9	LAC	1984/364	19:04:45	245	3072	0	1	IA0370	88/08/25	IGH
NOA9	LAC	1984/365	18:54:00	259	3072	0	1	IA0371	88/08/25	IGH
NOA6	LAC	1984/365	22:10:27	28649	3072	0	1	IA0372	88/08/25	IGH
NOA6	LAC	1984/366	12:00:37	28657	2685	0	1	IA0373	88/08/25	IGH
NOA9	LAC	1984/366	17:03:48	272	3072	0	1	IA0374	88/08/25	IGH
NOA7	LAC	1985/001	18:46:15	18191	3072	0	1	IA0375	88/08/29	IGH
NOA7	LAC	1985/002	18:33:43	18205	3072	0	1	IA0376	88/08/29	IGH
NOA7	LAC	1985/003	18:21:53	18219	2824	0	1	IA0377	88/08/29	IGH
NOA7	LAC	1985/004	18:10:18	18233	2502	0	1	IA0378	88/08/29	IGH
NOA7	LAC	1985/005	19:36:07	18248	3072	0	1	IA0379	88/08/29	IGH
NOA7	LAC	1985/006	19:23:46	18262	3072	0	1	IA0380	88/08/30	IGH
NOA7	LAC	1985/007	19:12:36	18276	3072	0	1	IA0381	88/08/30	IGH
NOA9	LAC	1985/009	17:08:44	399	3072	0	1	IA0382	88/08/30	IGH
NOA9	LAC	1985/010	16:57:58	413	3072	0	1	IA0383	88/08/30	IGH
NOA9	LAC	1985/011	16:47:24	427	3009	0	1	IA0384	88/08/30	IGH
NOA9	LAC	1985/012	16:37:43	441	2642	0	1	IA0385	88/08/31	IGH
NOA9	LAC	1985/013	18:05:44	456	3072	0	1	IA0386	88/08/31	IGH
NOA9	LAC	1985/015	17:44:34	484	3072	0	1	IA0388	88/08/31	IGH
NOA9	LAC	1985/016	17:35:14	498	3072	0	1	IA0389	88/08/31	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1985/016	18:08:32	5647	3072	0	1	IA0763	89/01/04	IGH
NOA9	LAC	1985/017	17:24:27	512	3069	0	1	IA0390	88/08/31	IGH
NOA9	LAC	1985/018	17:13:41	526	3072	0	1	IA0391	88/09/01	IGH
NOA9	LAC	1985/019	17:02:55	540	3072	0	1	IA0392	88/09/01	IGH
NOA9	LAC	1985/020	18:31:53	555	3072	0	1	IA0393	88/09/01	IGH
NOA9	LAC	1985/021	18:21:14	569	3072	0	1	IA0394	88/09/01	IGH
NOA9	LAC	1985/022	16:32:07	582	2583	0	1	IA0395	88/09/01	IGH
NOA9	LAC	1985/023	16:22:27	596	2213	0	1	IA0396	88/09/02	IGH
NOA9	LAC	1985/024	17:49:26	611	3072	0	1	IA0397	88/09/02	IGH
NOA9	LAC	1985/026	17:29:24	639	3072	0	1	IA0399	88/09/06	IGH
NOA9	LAC	1985/027	17:18:38	653	3072	0	1	IA0400	88/09/06	IGH
NOA9	LAC	1985/028	17:07:53	667	3072	0	1	IA0401	88/09/06	IGH
NOA9	LAC	1985/029	16:57:08	681	3072	0	1	IA0402	88/09/06	IGH
NOA9	LAC	1985/030	18:26:08	696	2207	0	1	IA0403	88/09/09	LAP
NOA9	LAC	1985/031	16:37:15	709	2511	0	1	IA0404	88/09/06	IGH
NOA9	LAC	1985/031	18:15:31	710	3071	0	1	IA0405	88/09/07	IGH
NOA9	LAC	1985/032	16:26:53	723	2387	0	1	IA0406	88/09/07	IGH
NOA9	LAC	1985/033	16:17:48	737	1782	0	1	IA0407	88/09/07	IGH
NOA9	LAC	1985/035	17:34:22	766	3072	0	1	IA0409	88/09/07	IGH
NOA9	LAC	1985/036	17:23:35	780	3072	0	1	IA0410	88/09/07	IGH
NOA9	LAC	1985/037	17:12:48	794	3072	0	1	IA0411	88/09/08	IGH
NOA9	LAC	1985/038	17:02:03	808	3071	0	1	IA0412	88/09/08	IGH
NOA9	LAC	1985/039	16:51:22	822	3051	0	1	IA0413	89/05/12	lap
NOA9	LAC	1985/040	18:20:23	837	3063	0	1	IA0414	88/09/08	IGH
NOA9	LAC	1985/041	16:31:20	850	2556	0	1	IA0415	88/09/08	IGH
NOA9	LAC	1985/042	17:59:09	865	3071	0	1	IA0416	88/09/08	IGH
NOA9	LAC	1985/043	17:48:34	879	3072	0	1	IA0417	88/09/08	IGH
NOA9	LAC	1985/044	17:39:19	893	3071	0	1	IA0418	88/09/09	IGH
NOA9	LAC	1985/045	17:28:30	907	3064	0	1	IA0419	88/09/12	LAP
NOA9	LAC	1985/046	17:17:43	921	3071	0	1	IA0420	88/09/09	IGH
NOA9	LAC	1985/047	17:06:57	935	3070	0	1	IA0421	88/09/09	IGH
NOA9	LAC	1985/048	16:56:13	949	3071	0	1	IA0422	88/09/12	IGH
NOA9	LAC	1985/049	16:46:01	963	2878	0	1	IA0423	88/09/12	IGH
NOA9	LAC	1985/050	16:35:59	977	2636	0	1	IA0424	88/09/12	IGH
NOA9	LAC	1985/051	18:04:31	992	3071	0	1	IA0425	88/09/12	IGH
NOA9	LAC	1985/052	17:53:56	1006	3072	0	1	IA0426	88/09/13	IGH
NOA9	LAC	1985/053	17:43:21	1020	3069	0	1	IA0427	88/09/13	IGH
NOA9	LAC	1985/055	17:22:38	1048	3070	0	1	IA0429	88/09/13	IGH
NOA9	LAC	1985/056	17:11:51	1062	3072	0	1	IA0430	88/09/13	IGH
NOA9	LAC	1985/058	16:50:39	1090	2974	0	1	IA0432	88/09/13	IGH
NOA9	LAC	1985/059	18:19:59	1105	3072	0	1	IA0433	88/09/14	IGH
NOA9	LAC	1985/060	16:30:52	1118	2380	0	1	IA0434	88/09/14	IGH
NOA9	LAC	1985/061	16:20:59	1132	2085	0	1	IA0435	88/09/14	IGH
NOA9	LAC	1985/062	17:48:09	1147	3072	0	1	IA0436	88/09/14	IGH
NOA9	LAC	1985/063	17:38:20	1161	3071	0	1	IA0437	88/09/14	IGH
NOA9	LAC	1985/064	05:57:12	1168	2141	0	1	IA0438	88/09/15	IGH
NOA9	LAC	1985/065	17:16:46	1189	3071	0	1	IA0439	88/09/15	IGH
NOA9	LAC	1985/066	17:05:59	1203	3071	0	1	IA0440	88/09/15	IGH
NOA9	LAC	1985/067	16:55:20	1217	3035	0	1	IA0441	88/09/15	IGH
NOA9	LAC	1985/068	18:24:48	1232	3072	0	1	IA0442	88/09/15	IGH
NOA9	LAC	1985/069	16:35:04	1245	2610	0	1	IA0442	88/04/29	KLM
NOA9	LAC	1985/070	16:25:12	1259	2310	0	1	IA0444	88/09/16	IGH
NOA9	LAC	1985/070	18:03:33	1260	3072	0	1	IA0445	88/09/16	IGH
NOA9	LAC	1985/071	17:52:57	1274	3072	0	1	IA0446	88/09/16	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1985/072	17:43:13	1288	3072	0	1	IA0447	88/09/16	IGH
NOA9	LAC	1985/073	17:32:25	1302	3072	0	1	IA0448	88/09/16	IGH
NOA9	LAC	1985/074	17:21:37	1316	3072	0	1	IA0449	88/09/19	IGH
NOA9	LAC	1985/076	17:00:05	1344	3072	0	1	IA0450	88/09/19	IGH
NOA9	LAC	1985/077	16:49:34	1358	2993	0	1	IA0451	88/09/19	IGH
NOA9	LAC	1985/078	16:40:00	1372	2579	0	1	IA0452	88/09/19	IGH
NOA9	LAC	1985/078	18:18:59	1373	3072	0	1	IA0453	88/09/19	IGH
NOA9	LAC	1985/079	16:29:50	1386	2381	0	1	IA0454	88/09/20	IGH
NOA9	LAC	1985/080	17:57:44	1401	3072	0	1	IA0455	88/09/20	IGH
NOA9	LAC	1985/081	17:47:09	1415	3072	0	1	IA0456	88/09/20	IGFH
NOA9	LAC	1985/082	17:36:34	1429	3072	0	1	IA0457	88/09/20	IGH
NOA9	LAC	1985/083	17:26:29	1443	3072	0	1	IA0458	88/09/20	IGH
NOA9	LAC	1985/084	17:15:42	1457	3072	0	1	IA0459	88/09/21	IGH
NOA9	LAC	1985/085	17:04:56	1471	3072	0	1	IA0461	88/09/21	IGH
NOA9	LAC	1985/085	18:45:05	1472	3072	0	1	IA0460	88/09/21	IGH
NOA9	LAC	1985/086	18:34:26	1486	3072	0	1	IA0462	88/09/21	IGH
NOA9	LAC	1985/087	16:43:58	1499	2873	0	1	IA0463	88/09/23	IGH
NOA9	LAC	1985/087	18:23:47	1500	3072	0	1	IA0464	88/09/23	IGH
NOA9	LAC	1985/088	06:42:06	1507	2666	0	1	IA0465	88/09/23	IGH
NOA9	LAC	1985/088	18:13:08	1514	3072	0	1	IA0466	88/09/23	IGH
NOA9	LAC	1985/089	16:24:06	1527	2329	0	1	IA0467	88/09/23	IGH
NOA9	LAC	1985/090	17:51:55	1542	3071	0	1	IA0468	88/09/26	IGH
NOA9	LAC	1985/091	17:42:09	1556	3072	0	1	IA0469	88/09/26	IGH
NOA9	LAC	1985/092	17:31:21	1570	3072	0	1	IA0470	88/09/26	IGH
NOA9	LAC	1985/093	17:20:33	1584	3072	0	1	IA0471	88/09/26	IGFH
NOA9	LAC	1985/094	17:09:47	1598	3072	0	1	IA0472	88/09/26	IGH
NOA9	LAC	1985/094	18:49:54	1599	3072	0	1	IA0473	88/09/27	IGH
NOA9	LAC	1985/095	16:59:02	1612	3072	0	1	IA0474	88/09/27	IGH
NOA9	LAC	1985/096	16:48:34	1626	2974	0	1	IA0475	88/09/27	IGH
NOA9	LAC	1985/097	18:17:56	1641	3072	0	1	IA0476	88/09/27	IGH
NOA9	LAC	1985/098	16:28:54	1654	2336	0	1	IA0477	88/09/27	IGH
NOA9	LAC	1985/099	17:56:42	1669	3072	0	1	IA0478	88/09/28	IGH
NOA9	LAC	1985/100	17:46:07	1683	3072	0	1	IA0479	88/09/28	IGH
NOA9	LAC	1985/101	17:36:12	1697	3072	0	1	IA0480	88/09/28	IGH
NOA9	LAC	1985/102	17:25:25	1711	3072	0	1	IA0482	88/10/03	IGH
NOA9	LAC	1985/103	17:14:38	1725	3070	0	1	IA0483	88/09/28	IGH
NOA9	LAC	1985/104	17:03:53	1739	3072	0	1	IA0484	88/09/28	IGH
NOA9	LAC	1985/105	16:53:21	1753	2993	0	1	IA0485	88/10/03	IGH
NOA9	LAC	1985/106	16:43:02	1767	2841	0	1	IA0486	88/10/03	IGH
NOA9	LAC	1985/107	16:32:55	1781	2633	0	1	IA0487	88/10/03	IGH
NOA9	LAC	1985/108	18:01:29	1796	3072	0	1	IA0488	88/10/03	IGH
NOA9	LAC	1985/110	17:41:04	1824	3072	0	1	IA0490	88/10/03	IGH
NOA9	LAC	1985/111	17:30:16	1838	3072	0	1	IA0491	88/10/03	IGH
NOA9	LAC	1985/112	17:19:29	1852	3072	0	1	IA0492	88/10/04	IGH
NOA9	LAC	1985/113	17:08:42	1866	3072	0	1	IA0493	88/10/04	IGH
NOA9	LAC	1985/114	16:57:57	1880	3072	0	1	IA0494	88/10/04	IGH
NOA9	LAC	1985/115	06:56:38	1888	2594	0	1	IA0495	88/10/04	IGH
NOA9	LAC	1985/116	16:37:35	1908	2688	0	1	IA0496	88/10/04	IGH
NOA9	LAC	1985/117	16:28:14	1922	2197	0	1	IA0497	88/10/04	IGH
NOA9	LAC	1985/118	17:55:39	1937	3072	0	1	IA0498	88/10/05	IGH
NOA9	LAC	1985/119	17:45:04	1951	3072	0	1	IA0499	88/10/05	IGH
NOA9	LAC	1985/120	17:35:07	1965	3072	0	1	IA0500	88/10/05	IGH
NOA9	LAC	1985/121	17:26:21	1979	3072	0	1	IA0501	88/10/05	IGH
NOA9	LAC	1985/122	17:13:33	1993	3072	0	1	IA0502	88/10/05	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1985/123	17:02:48	2007	3072	0	1	IA0503	88/10/05	IGH
NOA9	LAC	1985/124	18:32:20	2022	2087	0	1	IA0504	88/10/05	IGH
NOA9	LAC	1985/125	16:42:14	2035	2742	0	1	IA0505	88/10/06	IGH
NOA9	LAC	1985/126	18:11:02	2050	3072	0	1	IA0506	88/10/06	IGH
NOA9	LAC	1985/127	18:00:26	2064	3072	0	1	IA0507	88/10/06	IGH
NOA9	LAC	1985/128	17:49:51	2078	3072	0	1	IA0508	88/10/06	IGH
NOA9	LAC	1985/129	17:40:00	2092	3072	0	1	IA0509	88/10/06	IGH
NOA9	LAC	1985/130	17:29:12	2106	3072	0	1	IA0510	88/10/06	IGH
NOA9	LAC	1985/131	17:18:25	2120	3072	0	1	IA0511	88/10/07	IGH
NOA9	LAC	1985/132	17:07:38	2134	3072	0	1	IA0512	88/10/07	IGH
NOA9	LAC	1985/133	16:56:55	2148	3061	0	1	IA0513	88/10/07	IGH
NOA9	LAC	1985/134	16:46:51	2162	2830	0	1	IA0514	88/10/07	IGH
NOA9	LAC	1985/135	16:37:03	2176	2489	0	1	IA0515	88/10/07	IGH
NOA9	LAC	1985/135	18:15:49	2177	3072	0	1	IA0516	88/10/07	IGH
NOA9	LAC	1985/136	18:05:12	2191	3072	0	1	IA0517	88/10/11	IGH
NOA9	LAC	1985/137	17:54:36	2205	3072	0	1	IA0518	88/10/11	IGH
NOA9	LAC	1985/138	17:44:51	2219	1251	0	1	IA0519	88/10/11	IGH
NOA9	LAC	1985/139	17:34:02	2233	3072	0	1	IA0520	88/10/11	IGH
NOA9	LAC	1985/140	17:23:15	2247	3072	0	1	IA0521	88/10/11	IGH
NOA9	LAC	1985/141	17:12:29	2261	3072	0	1	IA0522	88/10/11	IGH
NOA9	LAC	1985/142	17:01:43	2275	3072	0	1	IA0523	88/10/11	IGH
NOA9	LAC	1985/143	16:51:18	2289	2956	0	1	IA0524	88/10/12	IGH
NOA9	LAC	1985/144	16:41:17	2303	2699	0	1	IA0525	88/10/12	IGH
NOA9	LAC	1985/145	16:31:33	2317	2346	0	1	IA0526	88/10/12	IGH
NOA9	LAC	1985/146	17:59:23	2332	3072	0	1	IA0527	88/10/12	IGH
NOA9	LAC	1985/147	17:48:47	2346	3072	0	1	IA0528	88/10/12	IGH
NOA9	LAC	1985/148	17:38:53	2360	3072	0	1	IA0529	88/10/14	IGH
NOA9	LAC	1985/149	17:28:06	2374	3072	0	1	IA0530	88/10/14	IGH
NOA9	LAC	1985/150	17:17:18	2388	3072	0	1	IA0531	88/10/14	IGH
NOA9	LAC	1985/151	17:06:32	2402	3072	0	1	IA0532	88/10/14	IGH
NOA9	LAC	1985/152	16:56:17	2416	2892	0	1	IA0533	88/10/14	IGH
NOA9	LAC	1985/153	16:45:57	2430	2750	0	1	IA0534	88/10/14	IGH
NOA9	LAC	1985/153	18:25:23	2431	3072	0	1	IA0535	88/10/14	IGH
NOA9	LAC	1985/154	16:35:56	2444	2499	0	1	IA0536	88/10/17	IGH
NOA9	LAC	1985/155	18:04:07	2459	3072	0	1	IA0537	88/10/17	IGH
NOA9	LAC	1985/156	17:53:36	2473	3072	0	1	IA0538	88/10/17	IGH
NOA9	LAC	1985/157	17:43:48	2487	3072	0	1	IA0539	88/10/17	IGH
NOA9	LAC	1985/158	17:32:54	2501	3072	0	1	IA0540	88/10/17	IGH
NOA9	LAC	1985/159	17:22:07	2515	3072	0	1	IA0541	88/10/18	IGH
NOA9	LAC	1985/160	17:12:40	2529	2602	0	1	IA0542	88/10/18	IGH
NOA9	LAC	1985/161	17:00:40	2543	3046	0	1	IA0543	88/10/18	IGH
NOA9	LAC	1985/162	16:50:29	2557	2843	0	1	IA0544	88/10/18	IGH
NOA9	LAC	1985/163	16:40:22	2571	2626	0	1	IA0545	88/10/18	IGH
NOA9	LAC	1985/164	18:08:52	2586	3072	0	1	IA0546	88/10/20	IGH
NOA9	LAC	1985/165	16:21:21	2599	2208	0	1	IA0547	88/10/20	IGH
NOA9	LAC	1985/166	17:47:41	2614	2289	0	1	IA0548	88/10/20	IGH
NOA9	LAC	1985/167	17:37:44	2628	3072	0	1	IA0549	88/10/20	IGH
NOA6	LAC	1985/168	11:27:17	31049	2716	0	1	IA0550	88/10/20	IGH
NOA9	LAC	1985/169	17:16:08	2656	3072	0	1	IA0551	88/10/20	IGH
NOA9	LAC	1985/170	17:05:51	2670	2906	0	1	IA0552	88/10/21	IGH
NOA9	LAC	1985/171	16:55:19	2684	2823	0	1	IA0553	88/10/21	IGH
NOA9	LAC	1985/172	16:44:43	2698	2776	0	1	IA0554	88/10/21	IGH
NOA9	LAC	1985/173	18:13:38	2713	3072	0	1	IA0555	88/10/21	IGH
NOA9	LAC	1985/174	18:02:59	2727	3072	0	1	IA0556	88/10/21	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1985/175	17:52:23	2741	3072	0	1	IA0557	88/10/21	IGH
NOA9	LAC	1985/176	17:42:32	2755	3072	0	1	IA0558	88/10/24	IGH
NOA9	LAC	1985/177	17:31:44	2769	3072	0	1	IA0559	88/10/24	IGH
NOA9	LAC	1985/178	17:20:59	2783	3072	0	1	IA0560	88/10/24	IGH
NOA9	LAC	1985/179	17:10:09	2797	3072	0	1	IA0561	88/10/24	IGH
NOA9	LAC	1985/180	16:59:30	2811	3033	0	1	IA0562	88/10/24	IGH
NOA9	LAC	1985/181	16:49:34	2825	2741	0	1	IA0563	88/10/24	IGH
NOA9	LAC	1985/182	16:39:12	2839	2613	0	1	IA0564	88/10/26	IGH
NOA9	LAC	1985/183	16:29:38	2853	2197	0	1	IA0565	88/10/26	IGH
NOA9	LAC	1985/184	17:57:05	2868	3072	0	1	IA0566	88/10/26	IGH
NOA9	LAC	1985/185	17:47:19	2882	3072	0	1	IA0567	88/10/26	IGH
NOA9	LAC	1985/186	17:36:29	2896	3070	0	1	IA0568	88/06/30	YANKO
NOA9	LAC	1985/187	17:25:41	2910	3072	0	1	IA0569	88/10/26	IGH
NOA9	LAC	1985/188	17:14:54	2924	3072	0	1	IA0570	88/10/27	IGH
NOA9	LAC	1985/189	17:04:07	2938	3072	0	1	IA0571	88/10/27	IGH
NOA9	LAC	1985/190	18:33:39	2953	3072	0	1	IA0572	88/06/30	YANKO
NOA9	LAC	1985/191	16:43:42	2966	2695	0	1	IA0573	88/10/27	IGH
NOA9	LAC	1985/192	16:33:56	2980	2353	0	1	IA0574	88/10/27	IGH
NOA9	LAC	1985/193	18:01:45	2995	3072	0	1	IA0575	88/10/27	IGH
NOA9	LAC	1985/194	17:51:09	3009	3072	0	1	IA0576	88/06/30	YANKO
NOA9	LAC	1985/195	17:41:15	3023	3072	0	1	IA0577	88/10/28	IGH
NOA9	LAC	1985/196	17:30:27	3037	3072	0	1	IA0578	88/10/28	IGH
NOA9	LAC	1985/197	17:19:39	3051	3067	0	1	IA0579	88/10/28	IGH
NOA9	LAC	1985/198	17:08:53	3065	3072	0	1	IA0580	88/10/28	IGH
NOA9	LAC	1985/199	16:58:27	3079	2950	0	1	IA0581	88/10/28	IGH
NOA9	LAC	1985/200	16:48:19	3093	2729	0	1	IA0582	88/10/31	IGH
NOA9	LAC	1985/201	16:38:23	3107	2443	0	1	IA0583	88/10/31	IGH
NOA9	LAC	1985/202	16:28:22	3121	2190	0	1	IA0585	88/10/31	IGH
NOA9	LAC	1985/202	18:06:25	3122	3061	0	1	IA0586	88/06/30	YANKO
NOA9	LAC	1985/203	17:55:49	3136	3072	0	1	IA0587	88/10/31	IGH
NOA9	LAC	1985/204	17:46:00	3150	3072	0	1	IA0588	88/10/31	IGH
NOA9	LAC	1985/205	17:35:11	3164	3072	0	1	IA0589	88/06/30	YANKO
NOA9	LAC	1985/206	17:24:23	3178	3072	0	1	IA0590	88/11/01	IGH
NOA9	LAC	1985/207	17:13:36	3192	3072	0	1	IA0591	88/11/01	IGH
NOA9	LAC	1985/208	17:02:50	3206	3072	0	1	IA0592	88/11/01	IGH
NOA9	LAC	1985/209	16:53:44	3220	2479	0	1	IA0593	88/11/01	IGH
NOA8	LAC	1985/210	11:46:56	12138	2596	0	1	IA0594	88/06/30	YANKO
NOA9	LAC	1985/211	18:11:05	3249	3072	0	1	IA0595	88/11/02	IGH
NOA9	LAC	1985/212	17:58:51	3263	3072	0	1	IA0596	88/06/30	YANKO
NOA9	LAC	1985/214	17:39:55	3291	3072	0	1	IA0597	88/11/02	IGH
NOA9	LAC	1985/215	17:29:08	3305	3072	0	1	IA0598	88/06/29	YANKO
NOA9	LAC	1985/216	17:18:20	3319	3067	0	1	IA0599	88/06/29	YANKO
NOA9	LAC	1985/216	18:58:26	3320	3072	0	1	IA0600	88/11/02	IGH
NOA9	LAC	1985/217	17:07:34	3333	3072	0	1	IA0601	88/06/29	YANKO
NOA9	LAC	1985/218	16:57:14	3347	2918	0	1	IA0602	88/11/03	LAP
NOA9	LAC	1985/219	18:26:24	3362	3072	0	1	IA0603	88/06/29	YANKO
NOA9	LAC	1985/220	16:36:56	3375	2500	0	1	IA0604	88/11/03	IGH
NOA9	LAC	1985/220	18:15:46	3376	3072	0	1	IA0605	88/11/03	IGH
NOA9	LAC	1985/221	18:05:08	3390	3072	0	1	IA0606	88/11/03	IGH
NOA9	LAC	1985/222	17:54:32	3404	3072	0	1	IA0607	88/11/07	IGH
NOA9	LAC	1985/223	17:44:41	3418	3072	0	1	IA0608	88/11/07	IGH
NOA9	LAC	1985/224	17:33:51	3432	3072	0	1	IA0609	88/11/07	IGH
NOA9	LAC	1985/225	17:23:04	3446	3072	0	1	IA0610	88/11/07	IGH
NOA9	LAC	1985/225	19:00:22	3447	3072	0	1	IA0611	88/06/29	YANKO

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1985/226	17:12:17	3460	3072	0	1	IA0612	88/11/07	IGH
NOA9	LAC	1985/227	18:39:01	3475	3072	0	1	IA0613	88/11/08	IGH
NOA9	LAC	1985/228	18:31:05	3489	3071	0	1	IA0614	88/11/08	IGH
NOA9	LAC	1985/229	18:20:26	3503	3070	0	1	IA0615	88/06/29	YANKO
NOA9	LAC	1985/230	16:31:54	3516	2145	0	1	IA0616	88/11/08	IGH
NOA9	LAC	1985/231	17:59:11	3531	3072	0	1	IA0617	88/11/08	IGH
NOA9	LAC	1985/232	17:49:26	3545	3072	0	1	IA0618	88/11/08	IGH
NOA9	LAC	1985/233	17:38:36	3559	3072	0	1	IA0619	88/11/09	IGH
NOA9	LAC	1985/234	17:27:48	3573	3072	0	1	IA0620	88/11/09	IGH
NOA9	LAC	1985/235	17:17:01	3587	3072	0	1	IA0621	88/11/09	IGH
NOA9	LAC	1985/236	17:06:14	3601	3072	0	1	IA0622	88/11/09	IGH
NOA9	LAC	1985/237	16:56:17	3615	2786	0	1	IA0623	88/11/09	IGH
NOA9	LAC	1985/238	16:46:05	3629	2594	0	1	IA0624	88/11/09	IGH
NOA9	LAC	1985/239	16:36:09	3643	2308	0	1	IA0625	88/11/10	IGH
NOA9	LAC	1985/240	18:03:51	3658	3072	0	1	IA0626	88/11/10	IGH
NOA9	LAC	1985/241	17:53:15	3672	3072	0	1	IA0627	88/06/29	YANKO
NOA9	LAC	1985/242	17:43:21	3686	3072	0	1	IA0628	88/11/10	IGH
NOA9	LAC	1985/243	17:32:33	3700	3072	0	1	IA0629	88/11/10	IGH
NOA9	LAC	1985/244	17:21:45	3714	3072	0	1	IA0630	88/11/14	IGH
NOA9	LAC	1985/245	17:10:58	3728	3072	0	1	IA0631	88/11/14	IGH
NOA9	LAC	1985/246	17:00:29	3742	2973	0	1	IA0632	88/11/14	IGH
NOA9	LAC	1985/247	16:50:22	3756	2751	0	1	IA0633	88/11/14	IGH
NOA9	LAC	1985/248	18:19:09	3771	3072	0	1	IA0634	88/11/14	IGH
NOA9	LAC	1985/249	16:30:07	3784	2325	0	1	IA0635	88/11/14	IGH
NOA9	LAC	1985/250	17:57:55	3799	3072	0	1	IA0636	88/11/15	IGH
NOA9	LAC	1985/251	17:48:06	3813	3072	0	1	IA0637	88/11/15	IGH
NOA9	LAC	1985/252	06:07:15	3820	2799	0	1	IA0638	88/11/15	IGH
NOA9	LAC	1985/257	18:24:29	3898	2837	0	1	IA0639	88/11/15	IGH
NOA9	LAC	1985/258	18:13:12	3912	3071	0	1	IA0640	88/11/15	IGH
NOA9	LAC	1985/261	17:42:01	3954	3072	0	1	IA0641	88/11/15	IGH
NOA8	LAC	1985/262	11:21:40	12877	2156	0	1	IA0643	88/11/16	IGH
NOA9	LAC	1985/262	17:31:14	3968	3072	0	1	IA0642	88/11/16	IGH
NOA9	LAC	1985/263	19:00:32	3983	3072	0	1	IA0644	88/11/16	IGH
NOA9	LAC	1985/264	18:49:51	3997	2794	0	1	IA0645	88/11/16	IGH
NOA9	LAC	1985/265	16:59:17	4010	2934	0	1	IA0646	88/11/16	IGH
NOA9	LAC	1985/266	16:49:25	4024	2621	0	1	IA0647	88/11/16	IGH
NOA9	LAC	1985/267	18:17:52	4039	3072	0	1	IA0648	88/11/21	IGH
NOA9	LAC	1985/268	18:07:15	4053	3072	0	1	IA0649	88/11/21	IGH
NOA9	LAC	1985/269	17:56:38	4067	3072	0	1	IA0650	88/11/21	IGH
NOA9	LAC	1985/270	17:46:47	4081	3072	0	1	IA0651	88/11/21	IGH
NOA9	LAC	1985/271	17:35:58	4095	3072	0	1	IA0652	88/11/21	IGH
NOA9	LAC	1985/272	17:25:10	4109	3072	0	1	IA0653	88/11/21	IGH
NOA9	LAC	1985/273	18:54:32	4124	3072	0	1	IA0654	88/11/22	IGH
NOA9	LAC	1985/274	17:03:51	4137	2821	0	1	IA0655	88/11/22	IGH
NOA9	LAC	1985/275	16:53:20	4151	2906	0	1	IA0656	88/11/22	IGH
NOA9	LAC	1985/276	18:22:32	4166	3072	0	1	IA0657	88/11/22	IGH
NOA9	LAC	1985/277	16:33:52	4179	2193	0	1	IA0658	88/11/22	IGH
NOA9	LAC	1985/278	18:01:17	4194	3072	0	1	IA0659	88/11/22	IGH
NOA9	LAC	1985/279	06:20:17	4201	2397	0	1	IA0660	88/11/23	IGH
NOA9	LAC	1985/280	17:40:41	4222	3072	0	1	IA0661	88/11/23	IGH
NOA9	LAC	1985/281	17:29:53	4236	3072	0	1	IA0662	88/11/23	IGFH
NOA9	LAC	1985/282	17:19:06	4250	3071	0	1	IA0663	88/11/23	IGH
NOA9	LAC	1985/283	17:08:20	4264	3072	0	1	IA0664	88/11/23	IGH
NOA9	LAC	1985/284	16:57:57	4278	2929	0	1	IA0665	88/11/23	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1985/285	16:47:55	4292	2680	0	1	IA0666	88/11/24	IGH
NOA9	LAC	1985/286	16:38:31	4306	2205	0	1	IA0667	88/11/24	IGH
NOA9	LAC	1985/287	18:05:54	4321	3072	0	1	IA0668	88/11/24	IGH
NOA9	LAC	1985/289	17:45:23	4349	3072	0	1	IA0670	88/11/24	IGH
NOA9	LAC	1985/290	17:34:35	4363	3072	0	1	IA0671	88/11/24	IGH
NOA9	LAC	1985/291	17:23:47	4377	3072	0	1	IA0672	88/11/24	IGH
NOA9	LAC	1985/292	17:13:00	4391	3013	0	1	IA0673	88/11/25	IHG
NOA9	LAC	1985/294	18:31:49	4420	3072	0	1	IA0674	88/11/25	IGH
NOA9	LAC	1985/295	18:21:09	4434	3072	0	1	IA0675	88/11/25	IGH
NOA9	LAC	1985/296	16:32:43	4447	2105	0	1	IA0676	88/11/25	IGH
NOA9	LAC	1985/296	18:10:32	4448	1862	0	1	IA0676	88/11/25	IGH
NOA9	LAC	1985/297	17:59:55	4462	3072	0	1	IA0677	88/11/25	IGH
NOA9	LAC	1985/298	17:50:05	4476	3072	0	1	IA0678	88/11/29	IGH
NOA9	LAC	1985/299	17:39:15	4490	3072	0	1	IA0679	88/11/25	IGH
NOA9	LAC	1985/300	17:28:27	4504	3056	0	1	IA0680	88/11/29	IGH
NOA9	LAC	1985/301	18:56:09	4519	3072	0	1	IA0681	88/11/29	IGH
NOA9	LAC	1985/302	18:45:28	4533	3072	0	1	IA0682	88/11/29	IGH
NOA9	LAC	1985/303	16:56:39	4546	2883	0	1	IA0683	88/11/29	IGH
NOA9	LAC	1985/304	18:25:45	4561	3072	0	1	IA0684	88/11/30	IGH
NOA9	LAC	1985/305	08:24:34	4569	3072	0	1	IA0685	88/11/30	IGH
NOA9	LAC	1985/306	18:04:29	4589	3072	0	1	IA0686	88/11/30	IGH
NOA9	LAC	1985/307	17:53:53	4603	3072	0	1	IA0687	88/11/30	IGH
NOA9	LAC	1985/308	17:43:54	4617	3072	0	1	IA0688	88/11/30	IGH
NOA9	LAC	1985/309	17:33:05	4631	3072	0	1	IA0689	88/11/30	IGH
NOA9	LAC	1985/310	17:22:17	4645	3072	0	1	IA0690	88/12/01	IGH
NOA9	LAC	1985/311	18:51:41	4661	3072	0	1	IA0691	88/12/01	IGH
NOA9	LAC	1985/312	18:41:01	4674	3072	0	1	IA0692	88/12/01	IGH
NOA9	LAC	1985/313	18:30:20	4688	3072	0	1	IA0693	88/12/01	IGH
NOA9	LAC	1985/314	18:19:41	4702	3072	0	1	IA0694	88/12/01	IGH
NOA9	LAC	1985/315	18:09:02	4716	3072	0	1	IA0695	88/12/01	IGH
NOA9	LAC	1985/316	17:58:25	4730	3072	0	1	IA0696	88/12/02	IGH
NOA9	LAC	1985/317	17:48:33	4744	3072	0	1	IA0697	88/12/02	IGH
NOA9	LAC	1985/318	17:37:43	4758	3072	0	1	IA0698	88/12/02	IGH
NOA9	LAC	1985/319	17:26:54	4772	3072	0	1	IA0699	88/12/02	IGH
NOA9	LAC	1985/320	17:16:06	4786	3072	0	1	IA0700	88/12/02	IGH
NOA9	LAC	1985/321	18:45:33	4801	3072	0	1	IA0701	88/12/02	IGH
NOA9	LAC	1985/322	18:34:54	4815	3072	0	1	IA0702	88/12/06	IGH
NOA9	LAC	1985/323	18:27:04	4829	2048	0	1	IA0703	88/12/06	IGH
NOA9	LAC	1985/324	16:35:47	4842	2105	0	1	IA0704	88/12/06	IGH
NOA9	LAC	1985/325	18:04:23	4857	2048	0	1	IA0705	88/12/06	IGH
NOA9	LAC	1985/326	17:53:09	4871	3072	0	1	IA0706	88/12/06	IGH
NOA9	LAC	1985/327	17:42:18	4885	3072	0	1	IA0707	88/12/06	IGH
NOA9	LAC	1985/328	17:31:29	4899	3072	0	1	IA0708	88/12/07	IGH
NOA9	LAC	1985/329	17:20:41	4913	3072	0	1	IA0709	88/12/07	IGH
NOA9	LAC	1985/330	17:09:54	4927	3070	0	1	IA0710	88/12/07	IGH
NOA9	LAC	1985/331	16:59:28	4941	2948	0	1	IA0711	88/12/07	IGH
NOA9	LAC	1985/332	16:49:22	4955	2718	0	1	IA0712	88/12/07	IGH
NOA9	LAC	1985/333	16:39:40	4969	2346	0	1	IA0713	88/12/08	IGH
NOA9	LAC	1985/335	17:56:50	4998	3072	0	1	IA0714	88/12/08	IGH
NOA9	LAC	1985/336	17:46:53	5012	3073	0	1	IA0715	88/12/08	IGH
NOA9	LAC	1985/337	17:36:05	5026	3072	0	1	IA0716	88/12/08	IGH
NOA9	LAC	1985/338	17:25:14	5040	3072	0	1	IA0717	88/12/08	IGH
NOA9	LAC	1985/339	17:14:29	5054	3072	0	1	IA0718	88/12/08	IGH
NOA9	LAC	1985/340	17:03:51	5068	1847	0	1	IA0719	88/12/09	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1985/341	18:33:15	5083	2047	0	1	IA0719	88/12/09	IGH
NOA9	LAC	1985/342	18:22:34	5097	3070	0	1	IA0720	88/12/09	IGH
NOA9	LAC	1985/343	16:34:12	5110	2105	0	1	IA0721	88/12/09	IGH
NOA9	LAC	1985/344	18:01:18	5125	1790	0	1	IA0721	88/12/09	IGH
NOA9	LAC	1985/345	17:51:27	5139	1697	0	1	IA0722	88/12/09	IGH
NOA9	LAC	1985/346	17:40:36	5153	2268	0	1	IA0722	88/12/09	IGH
NOA9	LAC	1985/347	17:29:47	5167	3072	0	1	IA0723	88/12/12	IGH
NOA9	LAC	1985/348	17:19:00	5181	3072	0	1	IA0724	88/12/12	IGH
NOA9	LAC	1985/349	17:08:24	5195	3002	0	1	IA0725	88/12/12	IGH
NOA9	LAC	1985/350	16:57:53	5209	2907	0	1	IA0726	88/12/12	IGH
NOA9	LAC	1985/351	16:47:47	5223	2210	0	1	IA0727	88/12/12	IGH
NOA9	LAC	1985/352	16:38:02	5237	2308	0	1	IA0728	88/12/13	IGH
NOA9	LAC	1985/353	18:05:47	5252	3072	0	1	IA0729	88/12/13	IGH
NOA9	LAC	1985/354	17:56:00	5266	3072	0	1	IA0730	88/12/13	IGH
NOA9	LAC	1985/355	17:45:09	5280	2074	0	1	IA0731	88/12/13	IGH
NOA9	LAC	1985/356	17:34:20	5294	2658	0	1	IA0732	88/12/13	IGH
NOA9	LAC	1985/357	17:23:32	5308	3072	0	1	IA0733	88/12/13	IGH
NOA9	LAC	1985/358	18:52:56	5323	3072	0	1	IA0734	88/12/14	IGH
NOA9	LAC	1985/359	17:02:15	5336	2968	0	1	IA0735	88/12/14	IGH
NOA9	LAC	1985/360	16:52:13	5350	2709	0	1	IA0736	88/12/14	IGH
NOA9	LAC	1985/361	16:42:17	5364	2420	0	1	IA0737	88/12/14	IGH
NOA9	LAC	1985/362	18:10:15	5379	3072	0	1	IA0738	88/12/14	IGH
NOA9	LAC	1985/363	17:59:38	5393	3072	0	1	IA0739	88/12/14	IGH
NOA9	LAC	1985/364	17:49:42	5407	3072	0	1	IA0740	88/12/29	IGH
NOA9	LAC	1985/365	17:38:53	5421	3072	0	1	IA0747	88/12/29	IGH
NOA9	LAC	1986/001	17:28:03	5435	3072	0	1	IA0748	88/12/30	IGH
NOA9	LAC	1986/002	17:17:15	5449	3072	0	1	IA0749	88/12/30	IGH
NOA9	LAC	1986/003	17:06:49	5463	2949	0	1	IA0750	88/12/30	IGH
NOA9	LAC	1986/004	18:36:03	5478	3072	0	1	IA0751	88/12/30	IGH
NOA9	LAC	1986/005	18:25:22	5492	3072	0	1	IA0752	88/12/30	IGH
NOA9	LAC	1986/006	16:36:32	5505	2243	0	1	IA0753	88/12/30	IGH
NOA9	LAC	1986/007	18:04:06	5520	3072	0	1	IA0754	89/01/03	IGH
NOA9	LAC	1986/008	17:54:16	5534	2720	0	1	IA0755	89/01/03	IGH
NOA9	LAC	1986/009	17:43:25	5548	3072	0	1	IA0756	89/01/03	IGH
NOA9	LAC	1986/010	17:32:34	5562	3072	0	1	IA0757	89/01/03	IGH
NOA9	LAC	1986/011	17:21:46	5576	3072	0	1	IA0758	89/01/03	IGH
NOA9	LAC	1986/012	17:11:02	5590	3054	0	1	IA0759	89/01/03	IGH
NOA9	LAC	1986/013	17:00:39	5604	2910	0	1	IA0760	89/01/04	IGH
NOA9	LAC	1986/014	16:50:24	5618	2735	0	1	IA0761	89/01/04	IGH
NOA9	LAC	1986/015	16:40:42	5632	2355	0	1	IA0762	89/01/04	IGH
NOA9	LAC	1986/016	18:08:32	5647	3072	0	1	IA0763	89/01/05	LAP
NOA9	LAC	1986/017	17:57:54	5661	3072	0	1	IA0764	89/01/04	IGH
NOA9	LAC	1986/018	17:47:56	5675	23	0	1	IA0765	89/01/04	IGH
NOA9	LAC	1986/019	17:37:06	5689	3072	0	1	IA0766	89/01/05	IGH
NOA9	LAC	1986/020	17:26:17	5703	3072	0	1	IA0767	89/01/06	IGH
NOA9	LAC	1986/021	17:15:35	5717	3072	0	1	IA0768	89/01/05	IGH
NOA9	LAC	1986/022	17:04:49	5731	3036	0	1	IA0769	89/01/05	IGH
NOA9	LAC	1986/023	18:34:18	5746	3072	0	1	IA0770	89/01/05	IGH
NOA9	LAC	1986/024	16:45:06	5759	2392	0	1	IA0771	89/01/05	IGH
NOA9	LAC	1986/025	18:13:00	5774	3072	0	1	IA0772	89/01/06	IHG
NOA9	LAC	1986/026	18:02:21	5788	3072	0	1	IA0773	89/01/06	IGH
NOA9	LAC	1986/027	17:52:28	5802	3072	0	1	IA0774	89/01/06	IGH
NOA9	LAC	1986/028	17:41:37	5816	3072	0	1	IA0775	89/01/06	IHG
NOA9	LAC	1986/029	17:30:48	5830	3072	0	1	IA0776	89/01/06	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1986/030	17:19:59	5844	3072	0	1	IA0777	89/01/09	IGH
NOA9	LAC	1986/031	17:09:13	5858	3067	0	1	IA0778	89/01/09	IGH
NOA9	LAC	1986/032	16:58:58	5872	2878	0	1	IA0779	89/01/09	IGH
NOA9	LAC	1986/033	16:48:53	5886	2646	0	1	IA0780	89/01/09	IGH
NOA9	LAC	1986/034	18:17:25	5901	3072	0	1	IA0781	89/01/09	IGH
NOA9	LAC	1986/035	18:06:47	5915	3072	0	1	IA0782	89/01/09	IGH
NOA9	LAC	1986/036	17:56:58	5929	3072	0	1	IA0783	89/01/10	IGH
NOA9	LAC	1986/037	17:46:07	5943	3072	0	1	IA0784	89/01/10	IGH
NOA9	LAC	1986/038	19:12:34	5958	3072	0	1	IA0785	89/01/10	IGH
NOA9	LAC	1986/039	17:27:05	5971	2048	0	1	IA0786	89/01/12	IGH
NOA9	LAC	1986/040	17:13:41	5985	3072	0	1	IA0787	89/01/12	IGH
NOA9	LAC	1986/041	17:03:15	5999	2948	0	1	IA0788	89/01/12	IGH
NOA9	LAC	1986/042	16:53:08	6013	2720	0	1	IA0789	89/01/12	IGH
NOA9	LAC	1986/043	16:43:30	6027	2319	0	1	IA0790	89/01/12	IGH
NOA9	LAC	1986/044	18:10:40	6042	3072	0	1	IA0791	89/01/13	IGH
NOA9	LAC	1986/045	18:00:03	6056	2286	0	1	IA0792	88/09/02	AWI
NOA9	LAC	1986/046	17:50:36	6070	3072	0	1	IA0793	89/01/13	IGH
NOA9	LAC	1986/047	17:39:46	6084	3072	0	1	IA0794	89/01/13	IGH
NOA9	LAC	1986/048	19:08:37	6099	3072	0	1	IA0795	89/01/13	IGH
NOA9	LAC	1986/049	17:18:08	6112	3072	0	1	IA0796	89/01/13	IGH
NOA9	LAC	1986/050	17:07:48	6126	2909	0	1	IA0797	89/01/16	IGH
NOA9	LAC	1986/051	16:57:29	6140	2750	0	1	IA0798	89/01/16	IGH
NOA9	LAC	1986/052	16:47:49	6154	2359	0	1	IA0799	89/01/16	IGH
NOA9	LAC	1986/053	18:15:04	6169	3072	0	1	IA0800	89/01/16	IGH
NOA9	LAC	1986/054	18:04:26	6183	3072	0	1	IA0801	89/01/16	IGH
NOA9	LAC	1986/056	17:44:13	6211	3072	0	1	IA0803	89/01/16	IGH
NOA9	LAC	1986/057	17:33:23	6225	3072	0	1	IA0804	89/01/17	IGH
NOA9	LAC	1986/058	17:22:34	6239	3072	0	1	IA0805	89/01/17	IGH
NOA9	LAC	1986/059	17:11:55	6253	3016	0	1	IA0806	89/01/17	IGH
NOA9	LAC	1986/060	17:01:36	6267	2854	0	1	IA0807	89/01/17	IGH
NOA9	LAC	1986/061	16:51:41	6281	2547	0	1	IA0808	89/01/17	IGH
NOA9	LAC	1986/062	16:41:39	6295	2294	0	1	IA0809	89/01/17	IGH
NOA9	LAC	1986/063	18:08:47	6310	3072	0	1	IA0810	88/09/02	AWI
NOA9	LAC	1986/064	17:59:30	6324	3072	0	1	IA0811	89/01/18	IGH
NOA9	LAC	1986/065	17:48:39	6338	3072	0	1	IA0812	89/01/18	IGH
NOA9	LAC	1986/066	17:37:48	6352	3072	0	1	IA0813	89/01/18	IGH
NOA9	LAC	1986/067	17:26:59	6366	3072	0	1	IA0814	89/01/18	IGH
NOA9	LAC	1986/068	17:16:11	6380	3072	0	1	IA0815	89/01/18	IGH
NOA9	LAC	1986/069	17:05:59	6394	2857	0	1	IA0816	89/01/19	IGH
NOA9	LAC	1986/070	18:34:26	6409	3072	0	1	IA0817	89/01/19	IGH
NOA9	LAC	1986/071	16:46:01	6422	2207	0	1	IA0818	89/01/19	IGH
NOA9	LAC	1986/072	16:36:43	6436	2207	0	1	IA0819	89/01/19	IGH
NOA9	LAC	1986/072	18:13:06	6437	3072	0	1	IA0820	89/01/19	IGH
NOA9	LAC	1986/073	18:02:29	6451	3072	0	1	IA0821	89/01/19	IGH
NOA9	LAC	1986/074	17:53:02	6465	3072	0	1	IA0822	89/01/20	IGH
NOA9	LAC	1986/075	17:42:12	6479	3072	0	1	IA0823	88/09/02	AWI
NOA9	LAC	1986/076	17:31:23	6493	3067	0	1	IA0824	89/01/20	IGH
NOA9	LAC	1986/077	17:20:40	6507	3072	0	1	IA0825	89/01/20	IGH
NOA9	LAC	1986/078	17:09:57	6521	3003	0	1	IA0826	89/01/20	IGH
NOA9	LAC	1986/079	16:59:46	6535	2785	0	1	IA0827	89/01/20	IGH
NOA9	LAC	1986/080	16:49:57	6549	2442	0	1	IA0828	89/01/23	IGH
NOA9	LAC	1986/080	18:28:05	6550	3072	0	1	IA0829	89/01/23	IGH
NOA9	LAC	1986/081	18:17:25	6564	3072	0	1	IA0830	89/01/23	IGH
NOA9	LAC	1986/082	18:06:47	6578	3070	0	1	IA0831	89/01/23	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1986/083	17:57:26	6592	3071	0	1	IA0832	89/01/23	IGH
NOA9	LAC	1986/084	17:46:34	6606	3072	0	1	IA0833	89/01/23	IGH
NOA9	LAC	1986/085	17:35:45	6620	3072	0	1	IA0834	89/01/24	IGH
NOA9	LAC	1986/086	17:24:54	6634	3069	0	1	IA0835	89/01/24	IGH
NOA9	LAC	1986/087	17:14:20	6648	2986	0	1	IA0836	89/01/24	IGH
NOA9	LAC	1986/088	18:43:04	6663	3070	0	1	IA0837	89/01/24	IGH
NOA9	LAC	1986/089	16:54:17	6676	2442	0	1	IA0838	89/01/24	IGH
NOA9	LAC	1986/089	18:32:22	6677	3072	0	1	IA0839	89/01/24	IGH
NOA9	LAC	1986/090	16:44:30	6690	2094	0	1	IA0840	89/01/26	IGH
NOA9	LAC	1986/090	18:21:44	6691	3072	0	1	IA0841	89/01/26	IGH
NOA9	LAC	1986/091	18:11:03	6705	3072	0	1	IA0842	89/01/26	IGH
NOA9	LAC	1986/093	17:50:54	6733	3072	0	1	IA0843	89/01/26	IGH
NOA9	LAC	1986/094	17:40:04	6747	3072	0	1	IA0844	89/01/26	IGH
NOA9	LAC	1986/095	17:29:14	6761	3072	0	1	IA0845	89/01/26	IGH
NOA9	LAC	1986/096	17:19:11	6775	2799	0	1	IA0846	89/01/27	IGH
NOA9	LAC	1986/097	17:07:59	6789	2943	0	1	IA0847	89/01/27	IGH
NOA9	LAC	1986/098	16:58:08	6803	2608	0	1	IA0848	89/01/27	IGH
NOA9	LAC	1986/099	16:48:01	6817	2380	0	1	IA0849	89/01/27	IGH
NOA9	LAC	1986/100	18:15:20	6832	3072	0	1	IA0850	89/01/27	IGH
NOA9	LAC	1986/101	18:04:42	6846	3072	0	1	IA0851	89/01/27	IGH
NOA9	LAC	1986/102	17:55:16	6860	3072	0	1	IA0852	89/01/30	IGH
NOA9	LAC	1986/104	17:33:33	6888	3072	0	1	IA0853	89/01/30	IGH
NOA9	LAC	1986/105	19:02:22	6903	2188	0	1	IA0854	89/01/30	IGH
NOA9	LAC	1986/106	18:51:39	6917	2470	0	1	IA0855	89/01/30	IGH
NOA9	LAC	1986/107	17:02:34	6930	2562	0	1	IA0856	89/01/30	IGH
NOA9	LAC	1986/108	16:52:17	6944	2384	0	1	IA0857	89/01/31	IGH
NOA9	LAC	1986/109	18:19:35	6959	3072	0	1	IA0858	89/01/31	IGH
NOA9	LAC	1986/110	18:08:55	6973	3072	0	1	IA0859	89/01/31	IGH
NOA9	LAC	1986/111	17:59:35	6987	3072	0	1	IA0860	89/01/31	IGH
NOA9	LAC	1986/112	17:48:43	7001	3072	0	1	IA0861	89/01/31	IGH
NOA9	LAC	1986/113	17:37:52	7015	1949	0	1	IA0862	89/01/31	IGH
NOA9	LAC	1986/114	17:27:03	7029	3072	0	1	IA0863	89/02/01	IGH
NOA9	LAC	1986/115	17:16:15	7043	3056	0	1	IA0864	89/02/01	IGH
NOA9	LAC	1986/116	17:06:12	7057	2797	0	1	IA0865	89/02/01	IGH
NOA9	LAC	1986/117	16:56:07	7071	2544	0	1	IA0866	89/02/01	IGH
NOA9	LAC	1986/118	16:46:23	7085	2174	0	1	IA0867	89/02/01	IGH
NOA9	LAC	1986/119	18:13:10	7100	3072	0	1	IA0868	89/02/01	IGH
NOA9	LAC	1986/120	18:03:54	7114	3072	0	1	IA0869	89/02/03	IGH
NOA9	LAC	1986/121	17:53:01	7128	3072	0	1	IA0870	89/02/03	IGH
NOA9	LAC	1986/122	17:42:10	7142	3072	0	1	IA0871	89/02/03	IGH
NOA9	LAC	1986/123	17:31:20	7156	3072	0	1	IA0872	89/02/03	IGH
NOA9	LAC	1986/124	17:20:31	7170	3072	0	1	IA0873	89/02/06	IGH
NOA9	LAC	1986/125	17:10:06	7184	2929	0	1	IA0874	89/02/06	IGH
NOA9	LAC	1986/126	17:00:03	7198	1945	0	1	IA0875	89/02/06	IGH
NOA9	LAC	1986/126	18:38:44	7199	3072	0	1	IA0877	89/02/06	IGH
NOA9	LAC	1986/127	16:50:23	7212	2046	0	1	IA0875	89/02/06	IGH
NOA9	LAC	1986/127	18:28:54	7213	3072	0	1	IA0876	89/02/06	IGH
NOA9	LAC	1986/128	18:18:13	7227	3072	0	1	IA0878	89/02/07	IGH
NOA9	LAC	1986/129	18:07:33	7241	3072	0	1	IA0879	89/02/07	IGH
NOA9	LAC	1986/130	17:57:20	7255	1444	0	1	IA0880	89/02/07	IGH
NOA9	LAC	1986/131	17:46:28	7269	3072	0	1	IA0881	89/02/07	IGH
NOA9	LAC	1986/132	17:35:38	7283	3072	0	1	IA0882	89/02/07	IGH
NOA9	LAC	1986/133	17:24:49	7297	3072	0	1	IA0883	89/02/07	IGH
NOA9	LAC	1986/134	17:14:09	7311	3019	0	1	IA0884	89/02/08	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1986/134	18:54:31	7312	3072	0	1	IA0885	89/02/08	IGH
NOA9	LAC	1986/135	07:12:45	7319	2585	0	1	IA0887	89/02/08	IGH
NOA9	LAC	1986/135	17:04:06	7325	2600	0	1	IA0886	89/02/08	IGH
NOA9	LAC	1986/135	18:43:49	7326	3072	0	1	IA0888	89/02/08	IGH
NOA9	LAC	1986/136	07:02:38	7333	2384	0	1	IA0889	89/02/08	IGH
NOA9	LAC	1986/136	16:53:58	7339	2518	0	1	IA0890	89/02/09	IGH
NOA9	LAC	1986/136	18:33:07	7340	3072	0	1	IA0891	89/02/09	IGH
NOA9	LAC	1986/137	06:51:43	7347	2457	0	1	IA0892	89/02/09	IGH
NOA9	LAC	1986/137	16:44:32	7353	2052	0	1	IA0893	89/02/09	IGH
NOA9	LAC	1986/138	18:11:48	7368	3072	0	1	IA0894	89/02/09	IGH
NOA9	LAC	1986/139	18:01:38	7382	3072	0	1	IA0895	89/02/09	IGH
NOA9	LAC	1986/140	17:50:46	7396	3072	0	1	IA0896	89/02/10	IGH
NOA9	LAC	1986/141	17:39:55	7410	3072	0	1	IA0897	89/02/10	IGH
NOA9	LAC	1986/142	17:29:05	7424	3072	0	1	IA0898	89/02/13	IGH
NOA9	LAC	1986/143	17:18:16	7438	3072	0	1	IA0899	89/02/13	IGH
NOA9	LAC	1986/144	17:08:37	7452	2664	0	1	IA0900	89/02/13	IGH
NOA9	LAC	1986/145	16:57:59	7466	2609	0	1	IA0901	89/02/13	IGH
NOA9	LAC	1986/146	16:48:07	7480	2291	0	1	IA0902	89/02/13	IGH
NOA9	LAC	1986/146	18:26:41	7481	3072	0	1	IA0903	89/02/13	IGH
NOA9	LAC	1986/147	16:38:40	7494	2082	0	1	IA0904	89/02/13	IGH
NOA9	LAC	1986/147	18:16:00	7495	3072	0	1	IA0905	89/02/13	IGH
NOA9	LAC	1986/148	18:05:56	7509	3072	0	1	IA0906	89/02/14	IGH
NOA9	LAC	1986/149	17:55:03	7523	3072	0	1	IA0907	89/02/14	IGH
NOA9	LAC	1986/150	19:24:31	7538	3072	0	1	IA0908	89/02/14	IGH
NOA9	LAC	1986/151	17:33:22	7551	3072	0	1	IA0909	89/02/14	IGH
NOA9	LAC	1986/152	17:22:53	7565	2948	0	1	IA0910	89/02/15	IGH
NOA9	LAC	1986/153	17:12:07	7579	2944	0	1	IA0911	89/02/15	IGH
NOA9	LAC	1986/154	18:41:35	7594	3072	0	1	IA0912	89/02/15	IGH
NOA9	LAC	1986/155	18:30:57	7608	3072	0	1	IA0913	89/02/15	IGH
NOA9	LAC	1986/156	18:20:13	7622	3072	0	1	IA0914	89/02/15	IGH
NOA9	LAC	1986/157	18:09:33	7636	3072	0	1	IA0915	89/02/15	IGH
NOA9	LAC	1986/158	17:59:20	7650	3072	0	1	IA0916	89/02/16	IGH
NOA9	LAC	1986/159	17:48:29	7664	3072	0	1	IA0917	89/02/16	IGH
NOA9	LAC	1986/160	17:37:38	7678	3072	0	1	IA0918	89/02/16	IGH
NOA9	LAC	1986/161	17:26:51	7692	3049	0	1	IA0919	89/02/16	IGH
NOA9	LAC	1986/162	17:16:17	7706	2961	0	1	IA0920	89/02/16	IGH
NOA9	LAC	1986/163	18:45:47	7721	3072	0	1	IA0921	89/02/16	IGH
NOA9	LAC	1986/164	16:55:49	7734	2575	0	1	IA0922	89/02/17	IGH
NOA9	LAC	1986/165	18:24:25	7749	2012	0	1	IA0923	89/02/17	IGH
NOA9	LAC	1986/166	18:14:16	7763	2892	0	1	IA0924	89/02/17	IGH
NOA9	LAC	1986/167	18:03:37	7777	3072	0	1	IA0926	89/02/17	IGH
NOA9	LAC	1986/168	17:52:44	7791	2626	0	1	IA0927	89/02/20	IGH
NOA9	LAC	1986/170	17:31:03	7819	3072	0	1	IA0928	89/02/20	IGH
NOA9	LAC	1986/171	17:20:14	7833	2980	0	1	IA0929	89/02/20	IGH
NOA9	LAC	1986/172	17:09:56	7847	2893	0	1	IA0930	89/02/20	IGH
NOA9	LAC	1986/172	18:49:44	7848	3072	0	1	IA0931	89/02/20	IGH
NOA9	LAC	1986/173	17:00:09	7861	2528	0	1	IA0932	89/02/20	IGH
NOA9	LAC	1986/174	18:28:20	7876	3072	0	1	IA0933	89/02/21	IGH
NOA9	LAC	1986/175	18:17:40	7890	3072	0	1	IA0934	89/02/21	IGH
NOA9	LAC	1986/176	18:07:52	7904	3072	0	1	IA0935	89/02/21	IGH
NOA9	LAC	1986/177	17:56:59	7918	3072	0	1	IA0936	89/02/21	IGH
NOA9	LAC	1986/178	17:46:07	7932	3072	0	1	IA0937	89/02/21	IGH
NOA9	LAC	1986/179	17:35:17	7946	3072	0	1	IA0938	89/02/21	IGH
NOA9	LAC	1986/180	19:04:39	7961	3072	0	1	IA0939	89/02/22	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1986/181	18:53:56	7975	3072	0	1	IA0940	89/02/22	IGH
NOA9	LAC	1986/182	18:43:13	7989	3072	0	1	IA0941	89/02/22	IGH
NOA9	LAC	1986/183	18:32:30	8003	3072	0	1	IA0942	89/02/22	IGH
NOA9	LAC	1986/184	18:21:50	8017	3072	0	1	IA0943	89/02/22	IGH
NOA9	LAC	1986/185	18:11:10	8031	3072	0	1	IA0944	89/02/22	IGH
NOA9	LAC	1986/186	18:01:13	8045	3072	0	1	IA0945	89/02/24	IGH
NOA9	LAC	1986/187	17:50:21	8059	3072	0	1	IA0946	89/02/24	IGH
NOA9	LAC	1986/188	17:39:29	8073	3072	0	1	IA0947	89/02/24	IGH
NOA9	LAC	1986/189	19:08:50	8088	3016	0	1	IA0948	89/02/24	IGH
NOA9	LAC	1986/190	17:18:06	8101	2975	0	1	IA0949	89/02/24	IGH
NOA9	LAC	1986/191	18:47:22	8116	3072	0	1	IA0950	89/02/27	IGH
NOA9	LAC	1986/192	18:36:40	8130	3072	0	1	IA0951	89/02/27	IGH
NOA9	LAC	1986/193	18:25:59	8144	3072	0	1	IA0952	89/02/27	IGH
NOA9	LAC	1986/194	18:15:19	8158	3073	0	1	IA0953	89/02/27	IGH
NOA9	LAC	1986/195	18:05:26	8172	3072	0	1	IA0954	89/02/27	IGH
NOA9	LAC	1986/196	17:54:32	8186	3072	0	1	IA0955	89/02/27	IGH
NOA9	LAC	1986/197	17:43:41	8200	3072	0	1	IA0956	89/02/28	IGH
NOA9	LAC	1986/198	17:32:50	8214	3072	0	1	IA0957	89/02/28	IGH
NOA9	LAC	1986/199	17:22:03	8228	1890	0	1	IA0958	89/02/28	IGH
NOA9	LAC	1986/200	18:51:30	8243	2790	0	1	IA0959	89/02/28	IGH
NOA9	LAC	1986/202	18:30:09	8271	3072	0	1	IA0960	89/02/28	IGH
NOA9	LAC	1986/203	18:19:26	8285	2805	0	1	IA0961	88/06/24	YANKO
NOA9	LAC	1986/204	18:09:36	8299	2300	0	1	IA0962	88/06/24	YANKO
NOA9	LAC	1986/205	17:58:43	8313	3072	0	1	IA0963	89/03/01	IGH
NOA9	LAC	1986/206	17:47:51	8327	3072	0	1	IA0964	89/03/01	IGH
NOA9	LAC	1986/207	17:37:00	8341	1844	0	1	IA0965	89/03/01	IGH
NOA9	LAC	1986/208	17:26:10	8355	3071	0	1	IA0966	89/03/01	IGH
NOA9	LAC	1986/209	17:16:05	8369	2812	0	1	IA0967	89/03/01	IGH
NOA9	LAC	1986/210	17:05:53	8383	2618	0	1	IA0968	89/03/02	IGH
NOA9	LAC	1986/211	16:55:50	8397	2374	0	1	IA0969	89/03/02	IGH
NOA9	LAC	1986/212	18:20:51	8412	3071	0	1	IA0970	89/03/02	IGH
NOA9	LAC	1986/213	18:14:16	8426	3072	0	1	IA0971	89/03/02	IGH
NOA9	LAC	1986/214	18:03:00	8440	3072	0	1	IA0972	89/03/02	IGH
NOA9	LAC	1986/215	17:52:01	8454	3072	0	1	IA0973	89/03/02	IGH
NOA9	LAC	1986/216	17:41:09	8468	3072	0	1	IA0974	89/03/03	IGH
NOA9	LAC	1986/217	17:30:18	8482	3072	0	1	IA0975	89/03/03	IGH
NOA9	LAC	1986/218	17:19:47	8496	2966	0	1	IA0976	89/03/03	IGH
NOA9	LAC	1986/218	18:57:11	8497	3011	0	1	IA0977	89/03/03	IGH
NOA9	LAC	1986/219	18:49:33	8511	3072	0	1	IA0978	89/03/03	IGH
NOA9	LAC	1986/220	16:59:46	8524	2122	0	1	IA0979	89/03/03	IGH
NOA9	LAC	1986/221	18:28:08	8539	3072	0	1	IA0980	88/06/24	YANKO
NOA9	LAC	1986/222	18:17:28	8553	3072	0	1	IA0981	89/03/06	IGH
NOA9	LAC	1986/223	18:07:02	8567	2949	0	1	IA0982	89/03/06	IGH
NOA9	LAC	1986/224	17:56:08	8581	3072	0	1	IA0983	88/06/24	YANKO
NOA9	LAC	1986/225	17:45:16	8595	3072	0	1	IA0984	88/12/07	INGRID
NOA9	LAC	1986/226	17:35:45	8609	2595	0	1	IA0985	68/06/23	YANKO
NOA9	LAC	1986/227	17:23:45	8623	3016	0	1	IA0986	89/03/07	IGH
NOA9	LAC	1986/228	17:13:13	8637	2916	0	1	IA0987	89/03/07	IGH
NOA9	LAC	1986/229	17:03:16	8651	2614	0	1	IA0988	89/03/07	IGH
NOA9	LAC	1986/230	16:53:17	8665	2323	0	1	IA0989	89/03/07	IGH
NOA9	LAC	1986/231	18:21:32	8680	3072	0	1	IA0990	89/03/07	IGH
NOA9	LAC	1986/232	18:11:10	8694	3072	0	1	IA0991	89/03/07	IGH
NOA9	LAC	1986/233	18:00:16	8708	3072	0	1	IA0992	88/06/23	YANKO
NOA9	LAC	1986/234	17:49:24	8722	2594	0	1	IA0993	89/03/08	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1986/235	17:38:33	8736	3072	0	1	IA0994	89/03/08	IGH
NOA9	LAC	1986/236	17:27:43	8750	3072	0	1	IA0995	89/03/08	IGH
NOA9	LAC	1986/237	17:17:21	8764	2907	0	1	IA0996	89/03/08	IGH
NOA9	LAC	1986/238	18:46:59	8779	3072	0	1	IA0997	88/06/23	YANKO
NOA9	LAC	1986/239	16:57:17	8792	2358	0	1	IA0998	89/03/09	IGH
NOA9	LAC	1986/240	16:47:55	8806	2288	0	1	IA0999	89/03/09	IGH
NOA9	LAC	1986/240	18:25:35	8807	3072	0	1	IA1000	89/03/09	IGH
NOA9	LAC	1986/241	18:14:54	8821	3072	0	1	IA1001	88/06/21	YANKO
NOA9	LAC	1986/242	18:04:23	8835	3072	0	1	IA1002	88/06/23	YANKO
NOA9	LAC	1986/243	17:53:31	8849	3072	0	1	IA1003	89/03/09	IGH
NOA9	LAC	1986/244	17:42:39	8863	3072	0	1	IA1004	89/03/10	IGH
NOA9	LAC	1986/245	17:31:49	8877	3072	0	1	IA1005	89/03/10	IGH
NOA9	LAC	1986/246	17:21:09	8891	3010	0	1	IA1006	89/03/10	IGH
NOA9	LAC	1986/248	18:40:20	8920	3071	0	1	IA1007	88/06/23	YANKO
NOA9	LAC	1986/250	18:18:57	8948	3072	0	1	IA1008	89/03/13	IGH
NOA9	LAC	1986/251	18:08:31	8962	3072	0	1	IA1009	89/03/14	IGH
NOA9	LAC	1986/252	17:59:57	8976	2048	0	1	IA1010	88/06/23	YANKO
NOA9	LAC	1986/253	17:46:46	8990	3072	0	1	IA1011	89/03/14	IGH
NOA9	LAC	1986/254	17:35:55	9004	3064	0	1	IA1012	89/03/14	IGH
NOA9	LAC	1986/255	17:25:05	9018	3072	0	1	IA1013	89/03/14	IGH
NOA9	LAC	1986/256	18:55:08	9033	3072	0	1	IA1014	88/06/21	YANKO
NOA9	LAC	1986/257	17:04:43	9046	2624	0	1	IA1015	89/03/15	IGH
NOA9	LAC	1986/257	18:44:24	9047	3072	0	1	IA1016	88/06/21	YANKO
NOA9	LAC	1986/258	18:33:43	9061	3072	0	1	IA1017	89/03/15	IGH
NOA9	LAC	1986/259	18:23:00	9075	3072	0	1	IA1018	89/03/15	IGH
NOA9	LAC	1986/260	18:12:38	9089	3073	0	1	IA1019	89/03/15	IGH
NOA9	LAC	1986/261	18:01:43	9103	2691	0	1	IA1020	88/06/21	YANKO
NOA9	LAC	1986/262	17:50:51	9117	3072	0	1	IA1021	89/03/16	IGH
NOA9	LAC	1986/263	17:40:00	9131	3072	0	1	IA1022	89/03/16	IGH
NOA9	LAC	1986/264	17:29:12	9145	3052	0	1	IA1023	89/03/16	IGH
NOA9	LAC	1986/265	17:18:43	9159	2941	0	1	IA1024	89/03/16	IGH
NOA9	LAC	1986/267	16:59:05	9187	2238	0	1	IA1025	89/03/16	IGH
NOA9	LAC	1986/268	18:27:02	9202	3071	0	1	IA1026	89/03/17	IGH
NOA9	LAC	1986/269	18:16:22	9216	3071	0	1	IA1027	89/03/17	IGH
NOA9	LAC	1986/270	18:06:53	9230	2698	0	1	IA1028	89/03/17	IGH
NOA9	LAC	1986/271	17:54:58	9244	3071	0	1	IA1029	88/06/24	YANKO
NOA9	LAC	1986/272	17:44:06	9258	2792	0	1	IA1030	89/03/17	IGH
NOA9	LAC	1986/273	17:33:16	9272	3072	0	1	IA1031	89/03/17	IGH
NOA9	LAC	1986/274	19:03:14	9287	3072	0	1	IA1032	89/03/20	IGH
NOA9	LAC	1986/275	18:52:30	9301	3072	0	1	IA1033	89/03/20	IGH
NOA9	LAC	1986/276	17:02:21	9314	2520	0	1	IA1034	89/03/20	IGH
NOA9	LAC	1986/277	18:31:05	9329	3071	0	1	IA1035	89/03/20	IGH
NOA9	LAC	1986/278	18:20:23	9343	3067	0	1	IA1036	89/03/20	IGH
NOA9	LAC	1986/279	18:09:55	9357	3072	0	1	IA1037	89/03/21	IGH
NOA9	LAC	1986/280	19:39:35	9372	3072	0	1	IA1038	89/03/21	IGH
NOA9	LAC	1986/281	17:48:09	9385	3072	0	1	IA1039	89/03/21	IGH
NOA9	LAC	1986/282	17:37:20	9399	3072	0	1	IA1040	89/03/21	IGH
NOA9	LAC	1986/283	19:07:16	9414	2888	0	1	IA1041	89/03/21	IGH
NOA9	LAC	1986/284	18:56:32	9428	3072	0	1	IA1042	89/03/21	IGH
NOA9	LAC	1986/285	18:45:49	9442	3072	0	1	IA1043	89/03/22	IGH
NOA9	LAC	1986/286	16:56:28	9455	2214	0	1	IA1044	89/03/22	IGH
NOA9	LAC	1986/287	18:24:24	9470	3072	0	1	IA1045	89/03/22	IGH
NOA9	LAC	1986/288	18:14:01	9484	3072	0	1	IA1046	89/03/22	IGH
NOA9	LAC	1986/289	18:03:07	9498	3072	0	1	IA1047	89/03/22	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1986/290	17:52:14	9512	2294	0	1	IA1048	89/03/22	IGH
NOA9	LAC	1986/291	17:41:23	9526	3072	0	1	IA1049	89/03/23	IGH
NOA9	LAC	1986/292	17:30:33	9540	3072	0	1	IA1050	89/03/23	IGH
NOA9	LAC	1986/293	17:20:12	9554	2899	0	1	IA1051	89/03/23	IGH
NOA9	LAC	1986/293	19:00:33	9555	3072	0	1	IA1052	89/03/23	IGH
NOA9	LAC	1986/294	17:10:01	9568	2669	0	1	IA1053	89/03/23	IGH
NOA9	LAC	1986/295	18:39:06	9583	3045	0	1	IA1054	89/03/23	IGH
NOA9	LAC	1986/296	18:28:24	9597	3072	0	1	IA1055	89/03/28	IGH
NOA9	LAC	1986/297	18:17:45	9611	3072	0	1	IA1056	89/03/28	IGH
NOA9	LAC	1986/298	18:07:11	9625	3072	0	1	IA1057	89/03/28	IGH
NOA9	LAC	1986/299	17:56:18	9639	3072	0	1	IA1058	89/03/28	IGH
NOA9	LAC	1986/300	17:45:26	9653	3072	0	1	IA1059	89/03/28	IGH
NOA9	LAC	1986/301	17:34:37	9667	2743	0	1	IA1060	89/03/28	IGH
NOA9	LAC	1986/302	19:04:33	9682	3072	0	1	IA1061	89/03/29	IGH
NOA9	LAC	1986/303	18:53:49	9696	3070	0	1	IA1062	89/03/29	IGH
NOA9	LAC	1986/304	18:43:07	9710	3072	0	1	IA1063	89/03/29	IGH
NOA9	LAC	1986/305	18:32:23	9724	3072	0	1	IA1064	89/03/29	IGH
NOA9	LAC	1986/306	18:21:42	9738	3071	0	1	IA1065	89/03/29	IGH
NOA9	LAC	1986/307	18:11:13	9752	3073	0	1	IA1066	89/03/29	IGH
NOA9	LAC	1986/308	18:00:21	9766	2810	0	1	IA1067	89/03/30	IGH
NOA9	LAC	1986/309	17:49:30	9780	3072	0	1	IA1068	89/03/30	IGH
NOA9	LAC	1986/310	17:38:36	9794	3072	0	1	IA1069	89/03/30	IGH
NOA9	LAC	1986/311	19:08:34	9809	3072	0	1	IA1070	89/03/31	IGH
NOA9	LAC	1986/312	17:17:32	9822	2849	0	1	IA1071	89/03/31	IGH
NOA9	LAC	1986/313	17:07:33	9836	2569	0	1	IA1072	89/03/31	IGH
NOA9	LAC	1986/314	18:36:21	9851	2120	0	1	IA1073	89/04/03	IGH
NOA9	LAC	1986/315	18:25:39	9865	2260	0	1	IA1074	89/04/03	IGH
NOA9	LAC	1986/316	18:15:14	9879	3072	0	1	IA1075	89/04/03	IGH
NOA9	LAC	1986/317	18:04:20	9893	1890	0	1	IA1076	89/04/03	IGH
NOA9	LAC	1986/318	17:53:29	9907	3072	0	1	IA1077	89/04/03	IGH
NOA9	LAC	1986/319	17:42:35	9921	3072	0	1	IA1078	89/04/03	IGH
NOA9	LAC	1986/320	17:31:44	9935	3072	0	1	IA1079	89/04/04	IGH
NOA9	LAC	1986/321	17:21:27	9949	2877	0	1	IA1080	89/04/04	IGH
NOA9	LAC	1986/322	18:51:04	9964	3072	0	1	IA1081	89/04/04	IGH
NOA9	LAC	1986/323	17:01:36	9977	2241	0	1	IA1082	89/04/04	IGH
NOA9	LAC	1986/324	18:29:34	9992	3071	0	1	IA1083	89/04/04	IGH
NOA9	LAC	1986/325	18:18:53	10006	3072	0	1	IA1084	89/04/04	IGH
NOA9	LAC	1986/326	18:08:20	10020	3072	0	1	IA1085	89/04/05	IGH
NOA9	LAC	1986/327	17:57:25	10034	3072	0	1	IA1086	89/04/05	IGH
NOA9	LAC	1986/328	17:46:32	10048	3072	0	1	IA1087	89/04/05	IGH
NOA9	LAC	1986/329	17:35:43	10062	3072	0	1	IA1088	89/04/05	IGH
NOA9	LAC	1986/330	17:25:18	10076	2913	0	1	IA1089	89/04/05	IGH
NOA9	LAC	1986/331	18:54:54	10091	2208	0	1	IA1090	89/04/06	IGH
NOA9	LAC	1986/332	18:44:13	10105	3070	0	1	IA1091	89/04/06	IGH
NOA9	LAC	1986/333	18:33:29	10119	3072	0	1	IA1092	89/04/06	IGH
NOA9	LAC	1986/334	18:22:46	10133	3072	0	1	IA1093	89/04/06	IGH
NOA9	LAC	1986/336	18:01:23	10161	3072	0	1	IA1094	89/04/06	IGH
NOA9	LAC	1986/337	17:50:29	10175	3055	0	1	IA1095	89/04/06	IGH
NOA9	LAC	1986/338	17:40:13	10189	3071	0	1	IA1096	89/04/07	IGH
NOA9	LAC	1986/339	19:10:21	10204	3072	0	1	IA1097	89/04/07	IGH
NOA9	LAC	1986/340	18:59:39	10218	3072	0	1	IA1098	89/04/07	IGH
NOA9	LAC	1986/341	18:48:52	10232	3071	0	1	IA1099	89/04/07	IGH
NOA9	LAC	1986/342	18:35:34	10246	3959	0	1	IA1100	89/04/10	IGH
NOA9	LAC	1986/343	18:25:17	10260	3957	0	1	IA1101	89/04/10	IGH

SAT	ID	YEARDAY	HH:MM:SS	ORBIT	SCNS	MIS	F	LABEL	INV DATE	PROJECT
NOA9	LAC	1986/344	18:14:45	10274	3959	0	1	IA1102	89/04/10	IGH
NOA9	LAC	1986/345	18:04:24	10288	3959	0	1	IA1103	89/04/10	IGH
NOA9	LAC	1986/346	17:53:15	10302	3958	0	1	IA1104	89/04/11	IGH
NOA9	LAC	1986/347	17:42:58	10316	3893	0	1	IA1105	89/04/11	IGH
NOA9	LAC	1986/348	17:32:42	10330	3661	0	1	IA1106	89/04/11	IGH
NOA9	LAC	1986/349	17:22:24	10344	3321	0	1	IA1107	89/04/11	IGH
NOA9	LAC	1986/350	18:49:36	10359	3959	0	1	IA1108	89/04/11	IGH
NOA9	LAC	1986/351	18:40:31	10373	3955	0	1	IA1109	89/04/11	IGH
NOA9	LAC	1986/352	16:52:50	10386	2056	0	1	IA1110	89/04/12	IGH
NOA9	LAC	1986/353	18:18:54	10401	3957	0	1	IA1111	89/04/12	IGH
NOA9	LAC	1986/354	18:08:12	10415	3957	0	1	IA1112	89/04/12	IGH
NOA9	LAC	1986/355	17:57:37	10429	3959	0	1	IA1113	89/04/12	IGH
NOA9	LAC	1986/356	17:46:52	10443	3915	0	1	IA1114	89/04/13	IGH
NOA9	LAC	1986/357	17:36:28	10457	3589	0	1	IA1115	89/04/13	IGH
NOA9	LAC	1986/358	19:06:52	10472	3953	0	1	IA1116	89/04/13	IGH
NOA9	LAC	1986/359	17:15:57	10485	3191	0	1	IA1117	89/04/13	IGH
NOA9	LAC	1986/360	18:43:09	10500	3959	0	1	IA1118	89/04/13	IGH
NOA9	LAC	1986/361	18:32:49	10514	3959	0	1	IA1119	89/04/13	IGH
NOA9	LAC	1986/362	18:22:29	10528	2911	0	1	IA1120	89/04/14	IGH
NOA9	LAC	1986/363	18:11:55	10542	3959	0	1	IA1121	89/04/17	LAP
NOA9	LAC	1986/364	18:01:21	10556	3959	0	1	IA1122	89/04/14	IGH
NOA9	LAC	1986/365	17:50:46	10570	3959	0	1	IA1123	89/04/14	IGH